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OUR SUMMER ISSUE.

THE SUMMER ISSUE of THE CHEMIST AND DRUGGIST will appear next week, and Subscribers may look for something specially attractive. Chemists who watch opportunities will easily make the year's subscription out of that number, and having done that out of the business part they will find quite enough literary interest left to provide a few hours' pleasant reading. Advertisers who have delayed up to this time taking space in this important issue must stir themselves promptly if they wish to have their announcements included. The latest possible date on which general advertisements can be arranged for is Tuesday next. Advertisements of and for situations, and others which go in our Supplement will be accepted as usual up to 5 P.M. on Thursday next.

POSTCARD COMPETITION—JULY.

ONE GUINEA is offered for the best quotation from any eminent writer—British or foreign, ancient or modern—not exceeding 50 words, suitable for use in advertising any of the articles usually sold by chemists. The original need not necessarily have the medicine, &c., in contemplation. Indeed, a quotation cleverly diverted from its original meaning to the purposes of the advertisement will be in many cases preferred. Postcards for this competition must reach us during the month of July. All subscribers, their families and employes are eligible to compete.

Summary.

EIGHT additional papers for the British Pharmaceutical Conference are announced on p. 64.

THE virtues of oils from the beech-nut and the seed of the linden as eating-oils are noticed on p. 66.

WE commence an illustrated report of the Antwerp Exhibition from a pharmacist's point of view on p. 70.

THE death of Mr. Henry Lamplough, the originator of the famous pyretic saline, is reported, and his portrait given on p. 75.

A LIST of the successful candidates at the last Major examination of the Pharmaceutical Society is given on p. 74.

TENDERS for sulphate of iron sent in to the London County Council varied from 16s. 10½d. to 47s. 6d. per ton (p. 64).

OUR Paris correspondent reports that the dispute as to the proprietary rights in the old title of Eau-de-Botot is still unsettled (p. 66).

MR. COMMISSIONER KERR has taken Mr. Fernando in hand, and promises to commit him if an order of his Court is not obeyed (p. 63).

THE death of an infant in a London lying-in hospital, in consequence of the administration of carbolic acid in mistake for olive oil, is reported (p. 65).

WE report two more sessions of the Select Committee of the House of Commons on Food Adulteration. Mr. Bannister, of Somerset House, was again examined, p. 80.

IN an interview with one of our representatives, Mr. Otto Hehner explains the modifications in the Sale of Food and Drugs Act proposed by the Society of Public Analysts, p. 80.

THE festal trips of Messrs. Townsend, label-printers, Exeter; E. Gardner, mixing-machine maker, Gloucester; and G. B. Kent & Sons, brushmakers, London, are noticed on p. 63.

THE comments of several public journals on the result in the action of the Pharmaceutical Society against Armson appear on p. 75. Our own comments on the case will be found on p. 77.

TWO retail drug-businesses and one wholesale one (Bleasdale's, of York) figure among new limited companies this week. An oil-syndicate, and medical defence association, make up the list (p. 86).

OUR report of the last Corner for Students competition, held over from last week, is now published. Ten out of thirty-three competitors failed to detect nearly 14 per cent. of barium. Mr. Moss explains this apparently unlikely result (p. 62).

THE career of an adventurous manufacturing chemist, as ascertained by an Official Receiver, showing how light-heartedly he formed company after company, floated a sporting paper, planned a theatre and hotel company, and has now attained the mature age of 25 years, is detailed in our Bankruptcy Reports on p. 69.

THE annual meeting of the Society of Chemical Industry has been held at Edinburgh during the week. Mr. E. C. C. Stanford, the President, was chairman, and in the course of his address, part of which was on the ocean as a store of chemical research, he showed that amongst its other treasures, sea-water could be made to yield iodine. The Society is still increasing in membership (p. 84).

LEGAL Reports comprise an action by the Pharmaceutical Society against an unqualified assistant at St. Helen's, for selling chlorodyne, in which the defendant was able to satisfy the judge that his sale was supervised by the manager, and who consequently saved his penalty; unfinished actions respecting a Worcestershire sauce, neither of the parties to the suit being the original makers, and concerning the patent rights of "direct Orange R.R." dye. A paper called *Food and Sanitation* gets severely reprimanded for comments on a pending vinegar action, and the dismissal of a summons in regard to malt vinegar is reported; p. 67.



CONDUCTED BY RICHARD J. MOSS, F.C.S., F.I.C

QUALITATIVE ANALYSIS.

REPORTS.

The subject of the last exercise in qualitative analysis was a mixture of 2 parts calcium phosphate, 2 parts magnesium acetate, and 1 part barium carbonate. Its calculated composition was:—

Ba	..	..	..	..	..	13.91
Ca	..	..	..	..	..	15.48
Mg	..	..	..	..	..	6.76
P ₂ O ₅	..	..	..	..	..	24.52
CO ₂	..	..	..	..	..	6.09
C ₂ H ₃ O ₂	..	..	..	..	..	33.24
						<u>100.00</u>

The mixture contained very slight traces of iron, chlorine, and the sulphuric radicle.

The number of packets sent to correspondents was 68, and the number of reports received 33. The failures in the detection of the chief constituents of the mixture were:—Barium, 10; acetic radicle, 9; calcium, 4; carbonic radicle, 3; phosphoric radicle, 4; magnesium, 3.

That so many as ten students should have failed to detect nearly 14 per cent. of barium seems remarkable, having regard to the fact that the analytical reactions of barium are so well marked and so easily observed. The explanation is, however, very simple. The omission was due chiefly to two causes—the accidental precipitation of the barium as carbonate along with the calcium phosphate, and the omission to warm the solution to which ammonium carbonate was added as a group-reagent. The first cause of failure is best illustrated by an experiment which is very easily tried. Take a small quantity of barium carbonate, treat it with cold water, and then add a little hydrochloric acid—just enough to dissolve the carbonate without the aid of heat. Now divide the solution into two parts, and boil one part until all the dissolved carbon dioxide is expelled; then cool it. We have now two solutions similar in every respect except that one contains dissolved carbon dioxide and the other does not. If ammonia is now added in slight excess to both solutions and a gentle heat applied, it will be found that a precipitate is produced in the unboiled solution, while the boiled one remains clear. The precipitate consists of barium carbonate, and is due to the carbon dioxide which remained dissolved in the original solution. It will be easily understood that the presence of carbon dioxide in this way may lead to the precipitation of a small quantity of barium, calcium, or strontium by an alkali when such a result was not expected.

The importance of warming the solution after the addition of the ammonium carbonate is also illustrated by this experiment. A small quantity of barium is not precipitated as carbonate until the solution is warmed. In the presence of much ammonium chloride a rather large quantity of barium will fail to give any precipitate with ammonium carbonate until heat is applied.

In the attempt to detect the acetic radicle several students failed to obtain the red coloration on adding ferric chloride to the aqueous extract of the powder. No doubt this failure was due in some cases to the presence of free hydrochloric

acid in the ferric-chloride solution. For the purpose of detecting acetic acid it is necessary that free acid should be absent or present only in minute quantity. Ferric chloride sometimes contains free hydrochloric acid in rather large quantity.

PRIZES.

The First Prize for the best analysis has been awarded to WILLIAM HARRINGTON, c/o Messrs. Wilson & Kitchen, 27 King Street, Whitehaven.

The Second Prize has been awarded to

H. FRASER, c/o Mr. F. Reynolds, 1 Station Bridge, Harrogate.

MARKS AWARDED FOR ANALYSES.

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Harold Read	..	85	W. H. Lester	20
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TO CORRESPONDENTS.

Prizes.—The students to whom prizes are awarded are requested to write at once to the Publisher, naming the book they select, and stating how they wish it forwarded.

Any scientific book that is published at a price not greatly exceeding half a guinea may be taken as a first prize.

Any scientific book which is sold for about five shillings may be taken as second prize.

Note.—All communications should include the names and addresses of the writers.

CAMPANULATE.—Following your test as you describe it, we could not detect the slightest trace of ammonia even on the application of heat. One would not expect to detect ammonia in a powder with a distinctly alkaline reaction, due to a fixed alkali.

NIL DESPERANDUM.—The precipitate of aluminium hydrate which you obtained must have been very slight. You will probably find, if you examine it, that your potassium hydrate is not free from aluminium.

BEEHIVE.—When the powder was carefully heated in a tube, there was, at one stage of the operation, a distinct odour of acetic acid and of acetone. The odour of acetic acid was strongly marked when the powder was treated with sulphuric acid.

HAROLD READ.—Barium chromate is soluble in about 2,000 parts of water containing 10 per cent. of acetic acid, so that the test you employed is not a very sensitive one. It is desirable to supplement the chromate test for barium by the addition of sulphuric acid or a sulphate.

VERITAS.—You state that the powder was insoluble in water; this is true in a certain sense, but two-fifths of it dissolved. You should have evaporated some of the aqueous extract to see if it left any residue. Both magnesium and the acetic radicle were more easily detected in the aqueous solution than in the acid solution of the entire powder. You do not describe any experiment on the solubility of the powder; this is always a very important point.

P. HARRIS.—You obtained an intense yellow flame-coloration when the powder was ignited. The platinum wire cannot have been properly cleaned; it should be ignited until it ceases to colour the flame, and after ignition it should not be touched with the fingers.

A. MCKELLAR.—The quantity of carbonate present was larger than you supposed. The alkalinity of the powder was due to a slight decomposition, which the magnesium acetate had undergone; traces of carbonate and hydrate of magnesium were present.

D. W. C.—The precipitate thrown down on adding ammonia to the acid solution of the powder was not aluminium hydrate, as you might have easily ascertained by examining it. It consisted of calcium phosphate, one of the constituents of the mixture of salts. When you neutralised the acid used to dissolve the mixture this constituent separated because it is not soluble in neutral or alkaline solutions. In a case of this kind it is necessary to adopt a special method.

ARTHUR WHATHAM.—The flame-coloration pointed very clearly to calcium and barium, and showed that no appreciable quantity of sodium

was present. On detecting calcium phosphate you seem to have assumed that no other salt insoluble in water could be present in the powder.

TABLOIDS.—You did not take the necessary steps for the separation of the phosphoric radicle. When a phosphate is present along with metals of the alkali-earth group, it is difficult to identify these metals and the members of the iron group without separating the phosphoric radicle. Precipitation, in the form of ferric phosphate, is about the most convenient method of separation.

HOPEFUL.—If the powder had contained a sulphate along with barium, it would not have been soluble in dilute hydrochloric acid. The very distinct effervescence produced on treating the powder with an acid ought not to have escaped your notice.

HYPO.—Your detection of some of the acid radicles was due more to accident than to the application of any system or method of analysis; this part of the work is quite as important as the detection of the metals.

KALISTOS.—The method you employed for the detection of the alkali-earth metals in the presence of phosphoric acid is not as reliable as that involving the complete separation of the phosphoric acid. See remarks to "Tabloids."

CAROLUS.—Contrary to what you observed, the odour of acetic acid was very distinct when the powder was treated with sulphuric acid. You ought also to have noticed the odour of acetic acid and acetone when the powder was heated.

VICTORY.—The slightly reddish flame-coloration was due to calcium; it was not the brilliant crimson of strontium. Your examination for acids was too hasty and superficial. See remarks to "Carolus."

PROGREDIENS.—You describe reactions which would certainly indicate a tartrate if they really took place. We cannot imagine how you managed to obtain such results. You say, "Heated with sulphuric acid, blackens at once." This is quite imaginary. No such effect was produced.

B. J. B.—You did not take a sufficient amount of care with the work. The precipitate you obtained with barium chloride would have dissolved if you had added enough hydrochloric acid.

W. H. LESTER.—You must have noticed that on adding sodium hydrate to the hydrochloric-acid solution of the supposed aluminium hydrate a precipitate was formed which did not dissolve in an excess of the reagent. This showed that something besides aluminium was present.

J. E. CHAPMAN.—Try to prepare a dry powder consisting of aluminium and magnesium chlorides, and see what the result will be.

English News.

The Editor is obliged to correspondents who send local newspapers containing items of interest to the trade. He will be further obliged if such paragraphs be marked in all cases.

Charge against a Chemist's Assistant.

On Wednesday of last week at the Walsall Police Court, Herbert Peters, described as a dentist, was charged with stealing money belonging to his employer, Mr. Bayley, chemist and druggist, of Park Street, Walsall. Mr. Jackson, for Peters, said that he was a registered dental practitioner, and if convicted his name would be struck off the register of the Association. Prisoner was well connected, and as the defalcation only amounted to 7s 6d., Mr. Bayley had consented, if the Bench would allow it, to withdraw the charge, Peters admitting the irregularities. Mr. Cotterell for Mr. Bayley, explained that the proceedings were only undertaken in the interests of the other assistants with a view to prevent any stigma attaching to them. The case was dismissed.

Mr. Fernando's Income.

Mr. Commissioner Kerr on Friday disposed of the case reported in the columns of THE CHEMIST AND DRUGGIST last week, in which Messrs. Lynch & Co., wholesale druggists, 192 Aldersgate Street, E.C., sought to have Mr. Frank Fernando, of Fernando, Rhodes & Co., chemist, 3 Victoria Buildings, Pimlico, committed to Holloway Gaol for the non-payment of the sum of 6l. 18s. 2d. for drugs supplied in the way of trade. When the case was last before the Court Mr. Bryant, who represented the plaintiffs, said that the defendant was employed by the Metropolitan Drug Company, but that he did not know what his income was, although he was frequently before the Courts, as the columns of THE CHEMIST AND DRUGGIST would show. Mr. Commissioner Kerr adjourned the case for the defendant to appear. Mr. Fernando now attended.

Mr. Commissioner Kerr said he thought the "Metropolitan Drug Company" were to have been subpoenaed. That was

his note. However, if the defendant attended, he supposed that was the same thing. Why was the money not paid?

The defendant, in answer to questions by Mr. Bryant, said he was not the owner of the Metropolitan Drug Company. He was in the employ of the company at a salary of 150l. a year.

Mr. Commissioner Kerr: Then you can pay this debt.

The defendant explained that he had other orders against him. They numbered in all eight now. The amounts that he paid left him about 35s. per week.

Mr. Commissioner Kerr: That is a very good thing. You can pay a little more. You must pay the plaintiffs 10s. per month. (To Mr. Bryant.) If the first 10s. is not paid in a month from now, take out a summons the next day, and I will commit him. Don't go to sleep over it. (Laughter.)

Mr. Bryant thanked the Court, and assured his Honour that they would not forget the defendant.

Meeting of Plymouth Chemists.

The Three Towns and Plymouth District Chemists' Association held their quarterly meeting at the Forester's Hall, Union Street, Plymouth, on July 11, Mr. J. G. Netting, president, in the chair. Several new and honorary members were elected, after which discussions on trade matters followed. The new Pharmacy Bill was approved of, and the proposed federation of associations received attention. A vote of thanks was proposed by the President, and seconded by Mr. W. F. Hunt, to the Council of the Pharmaceutical Society, London, for their generous gift of 20l. to the Association, for a materia medica cabinet for the use of members and students. Mr. C. J. Park, chemist, Mutley, then read an interesting paper on "Pharmacy as Practised in France, Germany, and Switzerland," on which an animated discussion followed, in which Messrs. Rendle, Roper, Hunt, Bailey, Cocks, and Netting took part. A vote of thanks to Mr. Park for his paper, and to the Chairman for presiding, closed the meeting. In October next a meeting will be held for the election of officers for the new session.

Festivities.

On Saturday, July 7, the employés of Mr. James Townsend, medical-label printer, of Exeter, went to Plymouth for their annual wayzgoose. There was a very large muster, and the weather was all that could be desired. A special train was chartered, leaving Exeter at 6.40 A.M., arriving at Calstock in time to catch the special steamer at 9.40 A.M., arriving at the promenade pier at 11.30. Dinner was served at the Freemasons' Hall at 1 o'clock. Mr. James Townsend occupied the chair; Mr. Dagleish (the manager) and Mr. T. J. Taylor were vice-chairmen.

Messrs. William Gardner & Sons, rapid sifter and mixer makers and engineers, of Bristol Road, Gloucester, had their annual outing to Malvern on Saturday of last week. The party drove to Malvern in brakes, and visited the Abbey and the interesting places of the town. Later, dinner was provided, and then the holiday-makers rambled about the hills, and sought the noted scenery of the district. On the return journey, after tea, Tewkesbury was visited, and here the works' band paraded the streets and treated the townsfolk to selections of music. Here also the health of the firm was proposed by Mr. Robinson, and responded to by Mr. C. E. Gardner. Gloucester was reached at a late hour, after an enjoyable holiday.

On Saturday last Messrs. G. B. Kent & Sons, the well-known brush-makers, of Great Marlborough Street, W., entertained their employés and friends to the "annual dinner" of the firm in the Garden Hall of the Crystal Palace. The day was fine, and the numerous company sat down to dinner at 1 P.M. The viands were good, the company jovial, and the arrangements under the able stewardship of the genial Mr. A. Tindley were, as usual, excellent. Mr. G. Harold Kent presided, supported by Messrs. Arthur B. Kent and Ernest N. Kent. After dinner the usual loyal toasts were observed. Those also of "The Firm," "The Employés," "The Harold Benevolent" (a fund which has been of good service to the employés in time of need), "The Visitors," and "Absent Friends" were proposed and responded to. The feature of the gathering was the apparent good-fellowship existing between employers and employed, a fact to which the Messrs. Kent (on behalf of the firm), and

Messrs. Chapman (staff) and Benwell (factory) also referred in happy terms. The company subsequently dispersed to enjoy the various attractions of the Palace and gardens, returning to tea at 6 P.M.

The Modern System of Trading.

The following appeared in a small druggist's shop-window recently in one of our Midland towns:—

"ATTENTION!"

We keep all kinds of Proprietary or so-called "Patent" Melieines, which we sell at store prices. If, however, a good gentle Purgé or mild cleanser is required, we recommend our sweetened extract of Aloe—fortified—at 5s. a gallon, enough to last a family a year at least. This article is identical with a number of those much-puffed nostrums neatly packed in one-ounce bottles, labelled and wrapped in numerous sheets of testimonials, offered at 1s. 1½d. and 2s. 9d. a bottle, recommended as a panacea for "all the ills that flesh is heir to."

Quarts, 1s. 6d.; Pints, 1s.

Bottles included.

Castor Oil same price.

Epsom Salts, 7 lbs. for 6d.

Fire.

On Thursday night last week a destructive fire occurred in a large block of buildings in Chamber and Ashton Roads, Oldham, part of which were in the occupation of Messrs. W. Geddes & Son, chemical manufacturers. During the progress of the fire several small explosions took place from the ignition of the chemicals, and some of the crowd which had gathered were slightly burnt. The whole of the stock of Messrs. Geddes was destroyed, but the machinery department and grinding department were uninjured, these sections of the business being separated from the main block by heavy iron fireproof doors. The damage to stock, and particularly that to the building, is considerable, and will amount to several thousand pounds, but this, it is understood, is covered by insurance.

Chemists at Cricket.

On June 23, a match was played between Burgoyne, Burbidges & Co. and Hearon, Squire & Francis, on the latter's ground at Blackheath; result, the former declared their innings closed after making 82 for 7 wickets, Hearon, Squire & Francis being all out for 69. The chief scorers were Ryley (31) and Hicks (23) for the victors.

On June 30, a match was played between Burgoyne, Burbidges & Co. and May & Baker, on the latter's ground at Raynes Park, when, after an exciting match, Burgoynes proved victorious by 10 runs, the scores being: B., B. & Co. 75, May & Baker 65.

On July 14, Burgoyne, Burbidges played their return match with Barron, Harveys & Co., on the former's ground at Ballham, the result being: B. B. & Co. 51, Barron Harveys 20. Moxon bowled well for the victors, taking 7 wickets for 8 runs.

Liver-pills and Whisky.

A traveller named William Constantine was charged at the Southampton Police Court, on July 12, with being drunk and incapable. In defence he stated that he was subject to liver complaint, which the police mistook for drunkenness. On the previous day in London he took two liver-pills, and on them two-pennyworth of whisky, and the combination had a very searching effect. The police officer stated that defendant had to be wheeled on a truck to the station, and he was fined 5s. and costs, with 1s. for the use of the truck.

Norfolk Drugs.

Mr. Sutton, public analyst to the Norfolk County Council, reported to the quarterly meeting of that body last week that he regretted to find that, owing to lack of care on the part of the prosecuting authority, two flagrant cases escaped punishment, namely, one sample of butter which contained 23½ per cent. of water, and one sample of ground ginger, half of which only was genuine, the remainder being made up with rubbish. Previous to the present quarter he had never made any examination of drugs, but the police had collected for him in this fifth quarter eight samples of sweet spirits of nitre and five samples of tincture of rhubarb. It was found that two samples of the spirits of nitre were very deficient in strength. After making due allowance for

the inevitable deterioration from keeping, &c., one was 50 and the other 75 per cent. below strength, and both were practically useless as medicines. One sample of tincture of rhubarb was of low quality, but he thought it would be sufficient if the police warned the seller as to his future supplies.

London County Council Chemicals.

The tenders received by the Main Drainage Committee for sulphate of iron were thirteen in number. The prices varied from 16s. 10½d. to 47s. 6d. per ton. The tender of Messrs. W. Bevan & Co. for 5,000 tons at 16s. 10½d. per ton was accepted. Fourteen firms tendered for the supply of lime at prices varying from 12s. 6d. to 20s. 4d. per ton. The following tenders were recommended for acceptance:—Mr. W. Fletcher, 5,000 tons at 12s. 6d., 5,000 tons at 12s. 9d.; Messrs. Christopherson, 10,000 tons at 12s. 9d.; Messrs. Wallace & Co., 2,000 tons at 12s. 9d.

The British Pharmaceutical Conference.

The Honorary Secretary informs us that the following papers are promised for the Oxford Conference in addition to those announced last week:—

17. "Animal Extracts," by C. E. Stuart, B.Sc.
18. "English Medicinal Rhubarb and Henbane," by R. Usher.
19. "The Calibration of Pipettes," by J. F. Liverseege, F.I.C.
20. "The Nomenclature of Official Remedies," by Joseph Ince.
21. "Extract of Indian Hemp," by David Hooper, F.I.C.
22. "Laboratory Notes," by F. C. J. Bird.
23. "The Keeping Qualities of certain Samples of Spirit of Nitrous Ether," by H. W. Jones, F.C.S.
24. "Note on Extract of Malt with Cod Liver Oil," by H. W. Jones F.C.S.

Death of a Morphia-eater.

An inquest was held on July 16 at Liverpool, concerning the death of George Groskurth, said to be a German medical man, and who had till lately kept a chemist's shop. Evidence showed that deceased was a confirmed morphia-eater, and a man of violent temper. He had been separated from his wife for some years, and had been bound over by Mr. Justice Day for sending threatening letters. A packet which had contained morphia was found near his body, and the medical evidence showed death to be due to narcotic poisoning. The jury returned an open verdict.

A Doctor takes Strychnine by Mistake.

An accident, which might have had fatal effects, occurred on July 16, to Dr. Alfred Freeman, of Wolverhampton. Dr. Freeman had been taking an ordinary stomachic mixture, and went into his surgery about mid-day to take his usual dose. Unfortunately, he took hold of the wrong bottle, and drank about an ounce of liquor strychnine before he discovered his mistake. Emetics and the stomach-pump being promptly applied, the majority of the poison was got rid of, and Dr. Freeman has since quite recovered.

Carbolic-poisonings.

An inquest was held on July 10, at Cloy, Flintshire, concerning the death of a child, aged 3 years, daughter of a man named Powell. Some carbolic acid had been left about, and the child drank it and died. The coroner commented strongly on the carelessness of the people, and a verdict of accidental poisoning was returned.

On July 11, a woman named E. Jones committed suicide in a Liverpool café by drinking carbolic acid. At the inquest the coroner commented on the ease with which carbolic acid could be obtained, and said that it was a serious matter, as cases of poisoning occurred every week from this cause, and he hoped legislation would soon be enforced making it difficult to obtain such stuff. The jury returned a verdict of "Suicide whilst temporarily insane," and expressed their concurrence with the remarks of the coroner.

Annie Beatrice Steventon, of West Bromwich, committed suicide on July 13 by drinking carbolic acid. Deceased, who was a woman of violent temper, was irritated over some work she had been given to do. The coroner's jury returned a verdict of "Suicide during temporary insanity."

An inquest was held on July 17, at Marylebone, before Dr. Danford Thomas, relative to the death of Mary Hope, a child only a few days old, who died from carbolic-acid poisoning at Queen Charlotte's Lying-in Hospital.

On Friday evening Nurse Reynolds informed the matron that she had given the deceased some carbolic acid in mistake for olive oil. The bottles of medicine were kept in a cupboard in the ward, and, being empty, were taken down to be refilled. Nurse Alice Beedie, finding that the house-surgeon, whose duty it was to refill the bottles, had not done so, filled them herself, and filled a bottle labelled "olive oil" with carbolic acid. Nurse Reynolds, not knowing this, gave the child a teaspoonful of the acid in place of the oil, from the effects of which the child died. The jury, in returning a verdict of death from misadventure, added that, "Having heard in evidence that this misadventure arose from one of the nurses filling up at the dispensary a bottle labelled 'olive oil' with carbolic acid—a duty which should have been performed by the resident medical officer—draw the attention of the hospital authorities to the occurrence, with a view to their making such amended rules and regulations as may in the future prevent the possibility of such an accident."

Mrs. Buckwell, of Commercial Road, E., has died from the effects of carbolic acid, believed to have been taken intentionally.

Ammonia in Mistake for Ginger-beer.

An inquest was held at Bradford, Yorks, relative to the death of William Haigh, warehouseman, who died suddenly on July 13. Evidence showed that deceased had gone downstairs early in the morning and had drunk ammonia out of a bottle in mistake for ginger-beer, the two bottles being close together and of similar shape. The jury returned a verdict of accidental death, and the Coroner said he hoped the case would be a warning to people to be careful where they kept poisons.

A Defaulting Hospital Secretary.

Last week, Alfred Nixon, late Secretary of the North-Eastern Hospital, was charged before the Lord Mayor with embezzling the subscriptions of the Hospital. He received a salary of 250*l.* a year and a commission, and lately resigned his position. The Treasurer of the Hospital stated that in 1892 prisoner received 263*l.*, and in 1893 the sum of 237*l.*, which were not accounted for. Prisoner pleaded guilty, and was sentenced to three months' hard labour.

British Institute of Public Health Congress.

The forthcoming congress of this institute will be held at the King's College, London, between the 26th and 31st of the present month. The opening meeting will be held in the Guildhall, and the Lord Mayor and Sheriffs, and Mayors of provincial corporations, will attend in state. On this occasion Professor Smith, of King's College, will be inducted as president for the year. Delegates from sanitary and local authorities and school-boards, to the number of 1,500, have already been appointed. The congress will be divided into five sections. In section A, "Preventive Medicine," there will be discussions on the spread of diphtheria; the dissemination of disease by river-water, on which Professor Frankland, Dr. Shirley Murphy, Dr. Louis Parkes, and others will speak; the aerial diffusion of smallpox; school sanitation and hygiene; and workshop inspection, on which Mr. J. B. Lakeman will give an address. In section B, "Chemistry and Climatology," there will be an exhibition of meteorological instruments and the apparatus used in food analysis, and discussions on air pollution, the bacteriological examination of water, adulteration, and sewage purification; and section C will be "Municipal and Parliamentary." Section D will deal with "Engineering and Building Construction," among the subjects being electric lighting, refuse and sewage disposal, and the construction of hospitals and artisans' dwellings. Section E will discuss "Naval and Military Hygiene." A large number of public institutions in the metropolis will be thrown open for inspection by the delegates.

Cholera.

The Secretary of the Local Government Board (Sir Hugh Owen) has issued a circular to the sanitary authorities urging precautionary measures, with a view to the prevention of any possible outbreak. Attention is specially drawn to the fact that in localities where cholera makes any headway, cases of antecedent diarrhoea have been frequent, and that

notification of this even when excessive has not been adopted till after the outbreak. The Board recommend the sanitary authorities to use the utmost vigilance in their districts in controlling cases of diarrhoea, especially where excessive or in the least suspicious, and add that they will give favourable consideration to any recommendations addressed to them to add diarrhoea to the list of notifiable diseases until the termination of the current quarter. The notification will probably be limited to attacks occurring in persons above the age of one year.

Claim for Ointment.

The case of Morton v. Barnett came before his Honour Judge Lumley Smith, Q.C., on Tuesday in the Westminster County Court. The claim was for ointment supplied by the plaintiff, a chemist, to the defendant, a hairdresser, for sale in his business. The defendant said for nine months he had been ill, and was a patient at a hospital at the present time. His Honour made an order for the payment of 1*s.* a month.

Poisoning by Atropine.

An inquest was held at Blackburn, on July 16, concerning the death of Mr. Parker, shoemaker. Medical evidence showed that death was due to poisoning by atropine, the deceased having been supplied with some eye drops containing atropine. The widow stated that she saw the deceased taking something from a bottle, and he said it was laudanum to induce sleep. She took the bottle away and gave an emetic, and deceased appeared all right for some hours, when he became unconscious and died in about twelve hours. The jury returned a verdict of death by misadventure.

Irish News.

Pharmaceutical Society of Ireland.

July Registered Druggist Examination:—Messrs. R. O. Curtis, J. R. Guest, and W. Lochie passed. Four candidates were rejected.

Scottish News.

Arsenic-poisoning.

John Duncan (60), a Dundee shoemaker, poisoned himself with white arsenic last week. The fact was discovered some time before he died, but medical aid was unavailing. It is said that Duncan bought the arsenic for use in his occupation. What use?

Professor P. F. Frankland's Successor.

The Council of University College, Dundee, have appointed Dr. James Walker, lecturer and demonstrator at University College, London, as successor to Professor P. F. Frankland, in the chair of chemistry. Dr. Walker, who is 31 years of age, is a Dundee man, and, as a boy, commenced his scientific education in the evening science classes of that town, then taught by Mr. Frank W. Young, one of our "Corner for Students" prizemen. Young Walker even at that time showed himself to be an apt student, and, though the youngest in the chemistry classes, was looked upon by his fellow-students as a coming man. Of that he gave proof when he went to the Edinburgh University, where he distinguished himself in proceeding to the doctorate of science. He afterwards studied in Germany, taking the Ph.D. degree, thereafter acting as assistant to Professor Crum Brown, in Edinburgh. During the past two years Dr. Walker has been in London engaged chiefly in research work, and he is a well-known figure at the Chemical Society's meetings, where, in papers and speeches, he has shown himself to be a leader in the more philosophic parts of chemical science. There were twelve applicants for the professorship to which he has now been appointed.

A Chemists' Trip.

The employés of the Scottish Drug Dépôt (Limited), Edinburgh and Leith, to the number of seventy, journeyed in four-in-hand coaches from the central premises at Nicholson Street to Habbie's Howe on July 12, where they had an enjoyable picnic. Dinner was served in the Allan Ramsay Hotel. Mr. Simpson, manager of the central, proposed the toast of the company, for which Mr. John Corstorphine, managing director, who presided, replied. The day was spent in sports, and in the evening tea was served at the same place.

French Pharmaceutical News.

(From our Paris Correspondent.)

THE BOOK-TOUT DODGE.—A French provincial pharmacist has written plaintively to his favourite journal complaining because he fell an easy victim to a very ordinary and not particularly ingenious swindler. An individual called on him and offered 15 per cent. discount on all medical, pharmaceutical, and scientific books, with carriage paid. He was tempted to make a purchase, involving an outlay of 3*fr.*, which sum he paid in advance against an elaborate bill-head in form of receipt. This document was all the pharmacist got for his money, and now he writes to the newspapers in case any other of the craft might be similarly tempted into the penny-wise policy.

A WIDOW'S GRIEVANCE.—A curious quarrel in the Raspail family is before the Paris Law Courts this week. Since the death of M. Emile Raspail, one of the sons of the famous introducer of the medicaments that bear the same name, his widow has, with affectionate piety, deposited each day a bouquet of natural flowers on the Raspail family tomb where her husband's remains are interred. Her brother-in-law has, however, prohibited the practice, on the ground that the moisture from the flowers damages the stone of the vault. This has given rise to a lawsuit, and a complicated point arises, as M. Emile Raspail's widow wishes to remove her husband's coffin, but the brother objects to this as well. The Court has reserved judgment for a week.

EAU DE BOTOT.—The pretension put forward by the proprietors of the Eau de Botot some months ago, that they have an exclusive right to that title, seems to be a claim that is widely disputed. Naturally French pharmacists, who for years have been making this preparation, have been somewhat exercised as to the risks they run in continuing its manufacture. Although no test-case has yet been tried, it seems to be the fact that numerous pharmacists manufacture Eau de Botot and use the name, and they believe they do this without infringing any right. They admit, however, that they must avoid using labels or bottles such as are adopted by the present successors of the original manufacturer of the article. A short history of the preparation was given in THE CHEMIST AND DRUGGIST of April 7 last, to which may be added that the Eau de Botot was introduced to the world under the reign of Louis XV., about the year 1755, by Edme François Botot, dentist, of 2 rue du Cloître, Saint-Jacques-l'Hôpital, Paris.

THE PARIS FACULTIES.—A meeting of the General Council of the Paris Faculties was held at the Sorbonne on Monday morning, July 16, under the Presidency of M. Gréard, vice-rector of the Academy. The programme of the lectures and conferences for the academic year 1894-95 was drawn up. It was decided to arrange for, amongst others, a professorship of analytical chemistry at the Superior School of Pharmacy. A number of free lectures were also announced for the winter session commencing next November. These include (1) At the Faculty of Medicine: "The Applications of Electricity to Biology and Physiology," by Dr. Reynier; "Dynamic Electricity," by Dr. Foveau de Courmelles. (2) At the Faculty of Sciences: "History of Chemistry," by M. Lucien Lévy; "Chemistry applied to Physiology," by M. Camille Chatric. (3) At the Superior School of Pharmacy: "Organic Chemistry, aromatic series," by M. Behal. The vice-rector was able to state at the same meeting that the city of Paris has consented to set aside a portion of the old Rollin College for purposes of instruction in physical chemical, and natural sciences.

Foreign and Colonial News.

BUSINESS CHANGES.—Mr. P. Pisoni, wholesale and export merchant, of Genoa, has liquidated his firm in that city, and has opened a new banking and import house in Vittoria, Espirito Santo, Brazil.

EXHIBITION AT NIJNI-NOVGOROD.—The preparatory works of the great exhibition which will be held at Nijni-Novgorod, in Russia, in 1896 are being actively proceeded with. The exhibition will be established on the two banks of the Volga, and the two parts of the exhibition will be connected by an electric railway.

PHILLIPS & CO. (LIMITED), of Bombay, Poona, &c., in their ninth annual report for the year ending February 28, 1894, show a net profit of Rs. 57,416-12, including Rs. 231-11-3 brought forward from last year, and propose paying the same dividend as last year (7 per cent., absorbing Rs. 35,000), and passing the balance to the reserve and building funds.

FIRE AT ARMOUR'S, IN CHICAGO.—At midnight on June 22, the big storage-house of Armour & Co., situated in the heart of the Armour stock-yard, Chicago, was discovered to be on fire. The building and its contents were entirely destroyed. The fire was discovered by the night-watchman after it had gained considerable headway, but the origin is not known. The loss is roughly estimated at \$250,000.

U.S. TRADE MARKS.—Amongst the trade-marks registered at the U.S. Patent-office, at Washington, up to June 26 last, are the following:—"Eurekeline," for medical preparations, liquids, pills, tablets, plasters, &c.; by F. A. Pice, Syracuse, N.Y. "Buckley's," for pills; by W. C. Abbott, Chicago. Device of bird with fig in its mouth, and perched on branch, for a laxative; by F. Taft Medical Company, Burlington, Vt. "Anazyme," for antiseptic powder; by B. L. Maltbie, Buffalo, N.Y. "R. C. R.," for liniments; by M. Queenan, Ansonia, Conn. Representation of man in kneeling posture, supporting a coin on his shoulder, for lip-salve; by O. Magenau, Denver, Col. "Lan-Ola," for wool fat; by the Wool-oil Refining Company, Pompton Lakes, N.J.

TABLE-OILS FROM BEECH AND LINDEN.—A fine sample of oil obtained from beech-nuts (*Fagus sylvatica*, L.) was presented to the Kew Museum by the late Dr. Seemann in 1854. This sample, according to the *Kew Bulletin*, is still in existence and is of a bright yellow colour, very closely resembling the finest olive oil. In works on botany a reference is generally made to the fact that "the fruits of the beech yield oil," but in this country at least no attempt has been made to prepare the oil in quantity. Dr. Seemann's specimen was obtained from northern Germany, where also the refuse of the nuts is used for fuel. According to the U.S. Consul in Stuttgart, an effort is now being made to develop the production of oil also from the lime or linden tree (*Tilia europæa*, L.). The immediate cause of the experiments lies in the great difficulty in procuring pure olive oil for table-purposes; but although in southern Germany oil has been produced from the beech-nut for some years past, it has not come into general use because the production has been small. The beech-nut contains about 23 per cent. of oil, but when the nuts are plentiful, the ease with which they can be gathered, the fact that there is absolutely no other expense except the pressing, and the good prices that have been received for the oil have made the production of the oil very profitable. It is only of late that the seeds of the linden-tree have been used for the production of oil. According to the report of Dr. C. Müller to the German Botanical Society, this oil has excellent qualities, which would appear to make it certain that the linden-seed will hereafter be considered one of the principal sources for obtaining table-oil. The linden-tree is a regular bearer, so that a large quantity of seed may be counted upon each autumn. The percentage of oil in the linden-seed is given at 58. It is maintained that the oil has a peculiarly fine flavour, free from all bitter or aromatic taste, and that it has the appearance of olive oil. Linden-seed oil does not become rancid, and does not oxidise. It will stand a great degree of cold without freezing. Dr. Müller has exposed it to 3° F. below zero without being able to notice any change.

Legal Reports.

BIRMINGHAM VINEGAR-BREWERY COMPANY (LIMITED) v. PERCY TOMSCHITZ.

In the Chancery Division on July 13, before Mr. Justice North, a motion was asked for an injunction to restrain the defendant, his travellers, servants, and agents, until trial or further order, from selling and exporting Worcestershire sauce, not of the plaintiffs' manufacture, under labels bearing the words "Holborn Vinegar-brewery Company," so as to lead to the belief that the same was the manufacture of Holbrook & Co.

Mr. S. Hall, Q.C., said that in addition to their vinegar business, the plaintiffs carried on the business of manufacturers of pickles and sauces, under the name of Holbrook. It seemed that when they began this branch they had a traveller of the name of Holbrook, and with his consent they adopted his name. Holbrook's sauce had become known in the trade as the manufacture of the plaintiffs. The defendant, who carried on business in Leadenhall Street, was now exporting Worcestershire sauce to South Africa under labels which the plaintiffs alleged to be colourable imitations of theirs. Copies of the labels having been handed up to his Lordship for comparison,

Mr. Swinfen Eady, Q.C., for the defendant, suggested that his Lordship should also look at Lea & Perrin's label, as this was the source of all Worcestershire sauce labels. Down to the words "sole manufacturers" the labels were identical.

Mr. Justice North: You are not successors in business of Lea and Perrin.

Mr. Hall said no; the top part of the label was common property now. There was no such firm in existence as the "Holborn Vinegar-brewery Company." The defendant did not live near Holborn, and had no connection with Holborn, and the plaintiffs said that he had combined the two names "Holbrook," which was well known in connection with their sauce, and the "Birmingham Vinegar-brewery Company," into the name "Holborn Vinegar-brewery Company," under circumstances which indicated an intention to pass off his goods as the goods of the plaintiffs. He did not, however, understand why his learned friend resisted this motion, because the case for the defendant was that only a very small quantity of sauce, got up as complained of, had been sent out. If the defendant would undertake to abandon the use of that name, he could not see why they should fight the matter.

Mr. Justice North: Perhaps he does not see why you should.

Mr. Eady called attention to the delay on the part of the plaintiffs to deliver their statement of claim, and suggested that, under the circumstances, the plaintiffs should wait until the trial of the action.

Mr. Hall admitted that the delay was a difficulty, adding that the delay had been caused by inability to procure exhibits sooner. He did not object to the motion standing for trial.

Mr. Justice North did not see how the word "Holborn" got on the defendant's labels.

Mr. Eady said the picture on the defendant's bottle was of Holborn Viaduct, and their trade-mark was adopted by a person who never heard of the name of "Holbrook."

Mr. Justice North: Why do not you call it the "Holborn Viaduct" sauce?

Mr. Swinfen Eady said that originally it was, and he would agree to the motion standing for trial.

Mr. Justice North thereupon, by consent, directed the motion to stand for trial.

TRIAL BY NEWSPAPER.

In the Queen's Bench Division on July 13, before Mr. Justice Wills and Mr. Justice Vaughan Williams, a motion was heard on behalf of the Birmingham Vinegar Brewery for an order for the committal of Mr. Michael Henry, of 138 Strand, for a contempt of Court, in that on June 9, 1894, he published in a journal called *Food and Sanitation*, of

which he was the proprietor, editor, and publisher, a certain article called "Somerset House and Vinegar."

Dr. Blake Odgers, Q.C., and Mr. Hugh Fraser appeared for the plaintiffs, who did not actually press for an order of committal, but desired to call the attention of the Court to the facts. Mr. T. W. Chitty appeared for the defendant.

The original action was one for libel. The plaintiffs are vinegar-manufacturers, and the libel complained of was published in *Food and Sanitation* in December last, in an article which reflected on the vinegar supplied by the plaintiffs, and on their conduct in publishing comments on another firm. The article which gave rise to this motion appeared on June 9, while the libel action was still pending. The article contained a strong attack on the Somerset House analysts, and continued:—"Their ignorance, however, not only enabled the vendors to escape punishment, but gave the manufacturers of the alleged pure malt vinegar an opportunity of issuing lying circulars to grocers everywhere throughout the kingdom, alleging their vinegar to be pure malt vinegar, which it most certainly is not." There was an affidavit to the effect that the plaintiffs would be understood to be referred to.

Mr. Chitty urged that even if the article of June 9 amounted to a libel on the Government analysts, or on the plaintiffs, or anyone else, it was not enough to support this motion. For, on such a motion, it must be shown that the matter which was published was likely to prejudice a fair trial of the action, which this did not. It should be observed that nowhere in the article were the plaintiffs named.

Mr. Justice Wills, in giving judgment on the motion, said that if he had been pressed for an order for committal he would have been very much inclined to grant it. There was a great and mischievous tendency to publish articles of this sort at the present time. If it went on it would lead to trial by newspapers instead of by the proper tribunals of this country. That was the result which writers of such articles aspired to. It might be that on the present occasion the defendant had not tainted the course of justice, but he had certainly done his very best to do so. He would very well deserve to be attached as an example to others. But that was not asked for. The defendant must, however, pay the costs of the motion as between solicitor and client, and enter into an undertaking that, until the trial of the action, there should be no more attempts to prejudice the course of justice by articles in the defendant's paper. Moreover, the sale of the particular issue must be stopped.

Mr. Justice Vaughan Williams concurred.

WHAT IS MALT VINEGAR?

AT Chichester, on July 14, William Blythe, grocer, of Ramboldsweyke, was summoned for selling malt vinegar not of the nature, substance, and quality demanded. A police officer had purchased from him a pint of malt vinegar, for which he paid 2d, and the certificate of Mr. Otto Hehner, public analyst, showed that it contained 30 parts of malt vinegar and 70 parts of vinegar not made from malt. At the instance of defendant's solicitor, Mr. Cogan, Mr. Hehner was in attendance, and in reply to Mr. Cogan stated that the 70 parts of the sample not made from malt were made from other saccharine material. He did not say whether the addition of these other parts tended to lower the quality of the article or not. That is a matter of opinion.

What is your opinion?—In my opinion malt vinegar is the best quality sold. It is made from the most expensive materials, and vinegar made from substitutes—although just as acid and good for ordinary table purposes—is not of the same high quality as malt vinegar.

Are the ingredients mixed injurious to health?—Certainly not. I think it is a perfectly sound and useful article, but it is not malt vinegar.

Mr. Cogan said defendant purchased the article as commercial malt vinegar, and had a written warranty. He called Mr. Oswald D. Cottell, partner in the firm of White, Cottell & Co., vinegar-merchants, of Long Lane, Borough, who stated that the article was a genuine vinegar, known throughout Great Britain as commercial malt vinegar. It was far cheaper to make vinegar from so-called barley-malt. Cross-examined, witness said the vinegar was made from malt-liquor. Asked to state what the liquor was

composed of, he declined to disclose trade secrets. Replying to the Bench, witness stated that he had been in the trade twenty-five years, but did not know of such a thing as malt vinegar made absolutely from malt. Professor Atfield was in attendance to give evidence for the defence; but the Bench considered that the plea as to warranty was a good defence, as far as defendant was concerned, and decided that they had no alternative, under section 25 of the Act, but to dismiss the case. The analyst's expenses were allowed, as also defendant's solicitor's fee.

AN ORANGE-DYE PATENT.

In the Chancery Division, on July 13, before Mr. Justice Chitty, the case of *Leonhardt & Co. v. Kalle & Co.* and *J. E. Rutter & Co.* came on for hearing on a motion for an interim injunction restraining the defendants, their servants, or agents, until judgment or further order, from manufacturing, selling, or supplying any dye-stuff manufactured according to the specification of plaintiffs' patent—No. 2,664 of 1888—or in any manner only colourably differing from the said specification.

Sir Richard Webster, Q.C., Mr. Moulton, Q.C., and Mr. Lee Clare, appeared in support of the motion, which was opposed by Mr. Aston, Q.C., and Mr. Yate Lee.

Sir Richard Webster said the dye in question was known as "direct orange R.R." and the contention of the plaintiffs was that this dye could only be produced by treating paranitrotoluenesulphonic acid or its salts with free caustic alkali in the presence of oxidisable organic or mineral substances, a patent for which had been taken out by the plaintiffs. Some time ago it came to the knowledge of the plaintiffs that the defendants were manufacturing and selling this dye, and they bought two cans of the stuff for the purpose of analysis. They found that the substance was practically identical with their product, and as it could not be produced without infringing the patent in question, proceedings were taken. A point raised by the defendants was that the plaintiffs knew of the alleged infringement long prior to the institution of proceedings, and that the delay which had taken place did not justify the plaintiffs in now asking for an injunction. No doubt this was to a certain extent true, but the plaintiffs had no reason to believe at the outset that the infringement of their patent was a serious one, and the fact that they did not at once take action, did not prohibit them from coming to the Court for an injunction. Counsel then read affidavits in relation to the manufacture of the orange dye. Evidence for the plaintiffs was given by Professor Adolph Liebmann and Professor Dewar. On the other side there was an affidavit by Dr. Edward Hepp, of Biebrich-on-Rhine, chief chemist to the defendants. He said that the orange R.R. dye was produced by quite a different process from that described in the plaintiffs' specification—viz., by the specification of the patent No. 23,672 of 1872, the property of the defendants Messrs. Kalle & Co. The last-mentioned process had not for its object the treatment of paranitrotoluenesulphonic acid with alkalis in the presence of any oxidisable substances, but was an improved process for preparing a new colouring-matter by the action of alkalis upon paranitrotoluenesulphonic acid without any oxidisable substances being added. Having thus produced a hitherto unknown compound, dinitrosostilbenedisulphonic acid, by acting upon paranitrotoluenesulphonic acid with alkali at a lower temperature than was used formerly, the new substance was treated with strong reducing agents such as were suitable for transforming the nitroso into the azo group—as, for instance, with protoxide of iron, which was not enumerated in the complete specification filed with the plaintiffs' letters patent. It was well known to chemists at the date of the plaintiffs' patent, No. 2,664, that by the treatment of paranitrotoluenesulphonic acid with alkalis at a somewhat modified temperature a yellowish-red dye-stuff could be obtained. By altering the conditions of such treatment, the before-mentioned new compound had been obtained, the production of which was the essential step in the letters patent No. 23,672, and which could not be formed by operating in the presence of oxidisable substances. Sir Richard contended on the affidavits that a sufficient case had been made out to entitle the plaintiffs to an injunction. The defendants on their own specification had simply divided the one process into two steps, and he should submit that to all intents and purposes the processes were identical.

Mr. Moulton, Q.C., following on the same side, said that with regard to the question of delay a man was not expected on merely hearing of an infringement to begin an action unless the infringement was of a serious character.

Mr. Justice Chitty said there was no evidence as to whether the infringement was great or small at the time it came to the knowledge of the plaintiffs.

Mr. Moulton: What I press is that our action now shows that we consider the infringement sufficiently serious to justify us taking proceedings. We may not have considered it sufficiently serious before, but that is no argument against our having an interim injunction.

Mr. Justice Chitty: It has been so considered before.

Mr. Moulton: If a man lies by and does not assert his rights when his rights are largely and seriously infringed it may be so, but it would throw a terrible burden upon a patentee to say that he must always proceed when he hears of an infringement, although that infringement may be on a very small scale.

Mr. Justice Chitty asked Mr. Aston if he denied the validity of the plaintiffs' patent.

Mr. Aston: If they say ours is an infringement, unquestionably. My friend has put it that he treats paranitrotoluenesulphonic acid with an alkali in the presence of oxidisable substances. If that means in the presence of any oxidisable substance he is out of court, because in 1886 we produced one by treating paranitrotoluenesulphonic acid with a free alkali in the presence of an oxidisable body—viz., zinc dust. That was not disputed. What I press upon your Lordship is this. If our oxide of iron comes within the category which is found in the 1888 specification—which it does not in fact—then of course zinc dust, which is also a metal, would come in also. I quite admit that in the string which is given in the specification of 1888 there is a reference to a number of oxidisable bodies, but this does not include either zinc dust or oxide of iron. Therefore I say that the infringement is disputed as well as the validity of the patent.

After some further argument it was arranged that the defendants should keep an account, and that the motion should stand over until the trial of the action, which Sir Richard Webster was anxious should be brought on as speedily as possible.

SALE OF POISONOUS PROPRIETARY MEDICINES.

AT the St. Helens County Court, on July 18, before Judge Shand, a case was heard in which the Pharmaceutical Society of Great Britain claimed a penalty of 5*l.* from J. Ernest Edington, of 135 Westfield Street, St. Helens, an assistant at the World's Drug Stores, for committing a breach of the Pharmacy Act, 1868, by selling poison, defendant not being duly qualified. The plaintiff was Richard Bembridge, registrar of the Pharmaceutical Society, represented by Mr. T. R. Grey, barrister (instructed by Messrs. Flux, Thompson & Flux, London); and Mr. H. L. Riley, St. Helens, defended.

Mr. Grey said defendant carried on business at 135 Westfield Street, and the claim was in respect of the sale of a bottle of Dr. Collis Brown's chlorodyne. That contained about three-quarters or more of a grain of morphine, which was a poison under the schedule of the Pharmacy Act, 1868. The action was taken under 31 and 32 Victoria, chapter 121, section 15, under which any unqualified person came who sold any of the poisons specified in the Act, except under the actual personal superintendence of a registered chemist.

Arthur Foulds, an inquiry-agent of Salford, gave evidence that on May 31 he purchased the bottle of chlorodyne in question, paying 10*½d.* for it.

Ernest John Eastes, Fellow of the Institute of Chemistry, stated that on analysis he found that the bottle contained three-quarters of a grain of morphine—enough to kill an adult.

In reply to Mr. Riley, witness said the following of the directions on the bottle would prevent disastrous consequences in the use of the chlorodyne.

The Register of the Pharmaceutical Society was put in as evidence, showing that the defendant's name was not registered.

For the defence, Mr. Riley said the defendant was the son of a gentleman formerly in business in St. Helens, and had had large experience. He was the assistant of Mr. Peter

Webster Harrison, a qualified man, and defendant would swear that on this occasion, when he sold the chlorodyne to Foulds, Mr. Harrison was in an inner room, and that he first went to him with the bottle before selling it. Even if his Honour did think a technical offence had been committed he (Mr. Riley) submitted that it was of so trivial a nature that he might exercise the power conferred on county-court judges and dismiss it.

Evidence was given by John Ernest Edington, the defendant, Samuel Percy Edington, and P. W. Harrison in support of the statement that defendant brought the bottle to Mr. Harrison before he sold it.

His Honour said he was not going to convict unless there was abundant evidence, and he was not satisfied that the Act had been transgressed. The case was practically a criminal one, and it was perfectly right that everybody that transgressed the Act should be punished, and punished severely, but before they were punished the offence must be made out.

Judgment was given for the defendant with costs.

Bankruptcies and Failures.

Re ARTHUR FRENCH ST. GEORGE, Marine Street, Bermondsey, and Earlswood, Chemist and Electrician.

THE creditors in this case met at the London Bankruptcy Court on Thursday last, before Mr. A. H. Wildy, Official Receiver.

The debtor, who is an inventor, chemist and electrician, ascribes his insolvency to having borrowed money, and incurred liabilities to work out certain inventions which did not prove a success, and to being called upon to meet such liabilities, which he was unable to do. Accounts have been filed, showing liabilities, 1,033*l.* (unsecured, 529*l.* 4*s.* 6*d.*), and no assets whatever. No offer was submitted by the debtor, and the estate remains in the hands of the Official Receiver, to be wound up in bankruptcy. The debtor was directed to attend the Court on July 24, for his public examination.

The following are the principal creditors, viz.:—

Unsecured.

	£	s.	d.
Adams, R., Redhill	17	0	0
Berrett, T., Redhill	12	0	0
Bryant & Clowes, Holborn Viaduct	50	0	0
Chart, Mrs. Hcrlcy	24	0	0
Clark, E. (deceased), Redhill	200	0	0
Cooper, R., Redhill	25	0	0
Mansfield, H. A., Millwall	40	0	0
Worrell, H. B., Colman Street, E.C.	25	0	0

Fully Secured.

Dick, W. B., Upper Thames Street	254	0	0
Vivian, J. B., Buxton	250	0	0
List D Liability	100	0	0

Re D. W. BARDILL, 21 Rose Hill Street, Derby, late Director of a Limited Company.

ON Monday, July 16, a meeting was held at Derby of the creditors of Mr. D. W. Bardill, chemist, and managing director of a limited liability company.

The Official Receiver reported the total liabilities at 845*l.* 19*s.*, and that the furniture, which was the only asset, had realised 77*l.* 14*s.* 9*d.* He further said that the debtor commenced business without capital. He seemed to have gone on well for a time, and then turned the affair into a limited liability concern. He should think that at the formation of the company the debtor could hardly be said to be solvent.

No resolutions were passed, and the estate was left in the hands of the Official Receiver.

Re S. O. YAXLEY, King Street, Cheapside, Manufacturing Chemist, &c.

UNDER the failure of this debtor, the usual summary of accounts and observations of the Official Receiver have been

issued. The accounts show total liabilities 11,601*l.*, and a deficiency of 9,066*l.* 11*s.*

According to the observations of Mr. A. H. Wildy, Official Receiver, the bankrupt states that he is 25 years of age, and that in 1891 he was carrying on business in Edinburgh, trading as "Attolo Company," for the sale of a baking powder, and failed with liabilities "under 400*l.*" No dividend was paid or release granted. Subsequently the debtor held various situations, and in January 1893, having a capital of 30*l.* or 40*l.*, he began business again as a manufacturer of medicated wines, at 26 Eldon Street, Finsbury, E.C., under the style of the "Maxton Food-wine Syndicate." Three months later he sold this business to a company promoted by himself, for 7,200*l.*, payable as to 7,000*l.* in shares, and 200*l.* in cash, and was appointed managing director of the company at a remuneration of 5*l.* per week, which position he resigned in July 1893. He had also lost 300*l.* in a sporting newspaper, entitled *Tell-Tale*, which he published. In August, 1893, he began business at 17 Devonshire Street, E.C., as the "Lombard Manufacturing Company," with the object of bringing out a non-alcoholic wine. The bankrupt appears to have been in an insolvent state throughout the whole of his business career. He found the capital to start this last business by borrowing 100*l.* at 10 per cent. interest. A month or so later he formed this business into a company, receiving for his interest 1,200*l.* payable in shares of the company, and by bills. At the date of the receiving order he was holding the appointment of managing director of this company at a remuneration of 5*l.* per week. The bankrupt attributes his present insolvency to losses and liabilities incurred in the attempt to promote a public company to build an hotel and theatre at Norwich.

Gazette.

PARTNERSHIPS DISSOLVED.

Cave, A. J., and Edwards, T. G., tea-dealers, grocers, Italian ware-housemen, wine, spirit, and beer merchants, provision merchants, confectioners, butchers, fishmongers, poultryers, patent-medicine vendors, mineral-water sellers and agents, greengrocers and fruiterers, auctioneers, house and estate agents and valuers, St. Leonards-on-Sea, Hastings, and Eastbourne, under the style of Cave & Edwards, and Brighton and Worthing, under the style of the Mincing Lane Tea and Coffee Company.

Loe, J. S., surgeon, and Ross, A. C., doctor of medicine, Leeds.

Reade, T., and Shaw, E., chemical manufacturers and wholesale and retail chemists and druggists, Wolverhampton, under the style of Reade Brothers & Co.

Reid, T. W., and Thornton, W. P., physicians, surgeons, and apothecaries, Canterbury, under the style of Reid & Thornton.

Smith, H., and Forsyth, W. C., manufacturing chemists, Leathliden, Stockport, under the style of the Manchester and Stockport Chemical Company.

Turner, A., and Norton, J. W., herb-beer manufacturers, Ashton-under-Lyne, under the style of Turner & Norton.

Wood, R., and Pass, W. H., under the style of Wood & Pass, Macclesfield, chemists and druggists and aerated mineral-water manufacturers

THE BANKRUPTCY ACTS, 1883 AND 1890.

RECEIVING ORDERS.

Armstrong, Thomas William, Carlisle, late aerated-water manufacturer, now out of business.

Murphy, G. Wyndham, Gloucester Crescent, Hyde Park, W., surgeon.

Robertson, Henry Matthew, Henley-on-Thames, late East Street, Walworth, S.E., chemist and druggist.

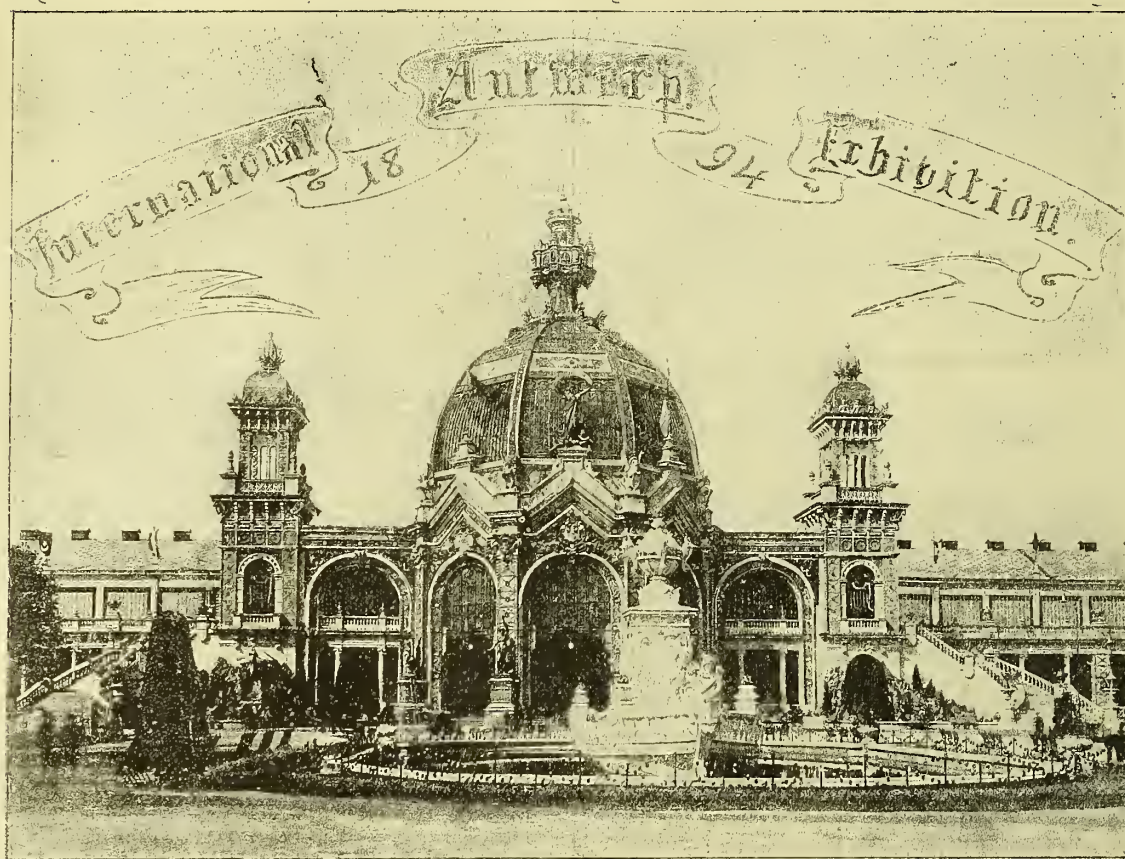
Wright, Walter, trading as Baker & Wright, Chelmsford, chemist and druggist.

ORDER MADE ON APPLICATION FOR DISCHARGE.

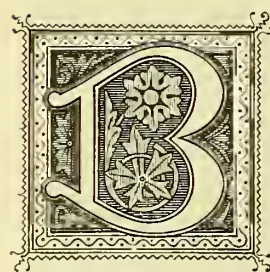
Child, William, described in receiving order as W. H. Child, Worship Street, E.C., brush manufacturer—discharge suspended for four years, ending June 14, 1898.

SCOTCH BANKRUPT.

Thompson, Mark Foggitt, chemist, 17 Gordon Street, Glasgow, and also at one time at 97 Princes' Street, Edinburgh, as an individual, and also as one of the partners of the firm carrying on business under the firm's name of M. F. Thompson, chemists, 7 St. Ann Street, Manchester. Creditors will meet in the Faculty Hall, St. George's Place, Glasgow, July 25, at 12 o'clock. W. Barrie, 149 St. Vincent Street, Glasgow, agent.



(FIRST NOTICE.)



BELGIUM will be the scene of many a hard-worked pharmacist's holiday this summer, Antwerp and its "International Exhibition" having been assiduously written up in the daily papers for months, and the ancient port on the Scheldt being rapidly and cheaply accessible from almost all parts of the British Isles. When, therefore, I was

charged with the duty of reporting the features of the Exhibition most likely to interest pharmacists, I proceeded upon the assumption that the average chemist finds it as difficult to shake off the trammels of "shop" as any other business man, and, indeed, would not feel happy if he did. It is said that when a waiter gets a day off, the pleasantest way in which he knows how to spend it is by going to help a colleague, and, without making comparisons, I feel convinced that the average pharmacist who abandons his dispensing-counter for a brief spell of change at Antwerp will feel impelled by the same instinct to spend a considerable portion of his time in hunting up the chemical and pharmaceutical shows sprinkled throughout the Exhibition buildings.

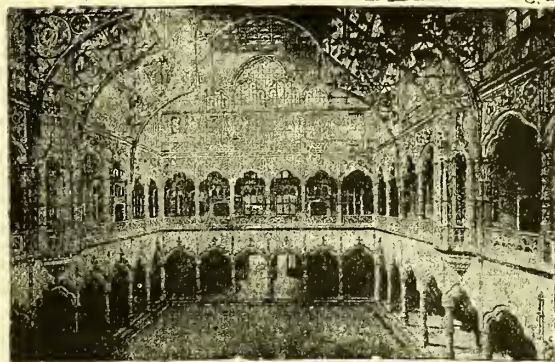
The Antwerp passenger-traffic has long ago discarded the route by which it was carried on in the days when, on an historic occasion, Mrs. Sarah Camp went down to the "Pool" to inquire, "Which among them smoking monsters was the Ankworks package?" The most direct way now

runs over Harwich, and the Great Eastern Railway Company, during the Exhibition season, supply special seven-day return-tickets from London to Antwerp for 30s. first, and 20s. second class. The journey takes nearly fourteen hours. The L.C.D. line charge exactly the same *via* Queenborough-Flushing, but they go one better in making their tickets available for a month and giving you an opportunity of travelling by a day as well as a night boat. By this route you spend four hours less on the water, but there is a two-hours' train-journey from Flushing through part of Holland, and thence to Antwerp, whereas the Great Eastern deposits you on Antwerp quay within sight of the ugliest hoardings in the world—those that screen the Exhibition grounds from the vulgar gaze. The Harwich route is, on the whole, the pleasanter of the two, especially in fine weather, when you can comfortably breakfast on board the "package" as it steams along the smooth waters of the Scheldt river, through Byron's "water-land of Dutchmen and of ditches." But if you do not care for night-travel, or wish to stay more than a week, by all means go *via* Queenborough. The Antwerp hotels are crowded at this season, but if you are a stranger in the city, and do not mind the often unjust stigma of helplessness which the popular mind associates with the "Cook's" tourist, that ubiquitous agency will put you right. Cook's interpreters habitually haunt the quay and railway-stations, and a much-suffering gentleman presides over an office of the firm in the British Section of the Exhibition. It may also be useful to mention that Messrs. Burroughs, Wellcome & Co. will supply any would-be pharmaceutical visitor who sends them a postcard to Snow Hill, with a free copy of a "Guide" to Antwerp, which contains many useful hints, and some recommendations of tradesmen and their wares.

THE BELGIAN "SMASHER."

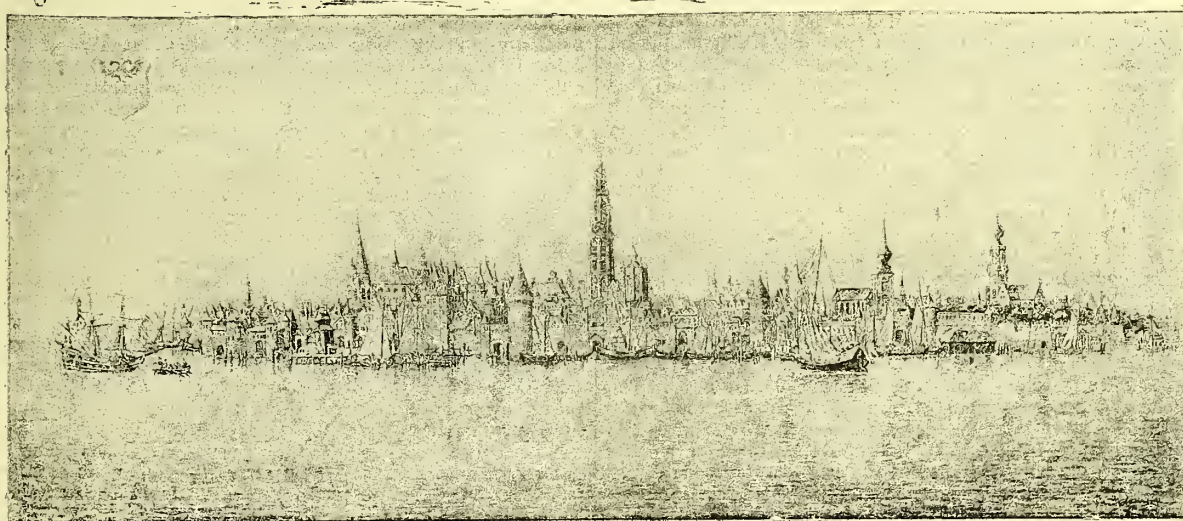
Antwerp has the distinction of possessing the highest-priced cabs of any city in Europe, and there are few places in which the Biblical line "I was a stranger, and ye took me in" receives more literal and constant application. The art of swindling the foreigner by palming off upon him non-current coins is one of the chiefest pastimes of a large section of the people, and furnishes a comfortable livelihood to thousands of brave Belgians. I am not unaccustomed to the coinage pitfalls with which one has to contend on Belgian soil, but the Exhibition has intensified the evil to such a degree that during my week's stay in Antwerp I accumulated no fewer than forty-seven spurious coins, ranging from the five-centime to the five-franc piece. At the entrance-gates and in the cafés of the Exhibition visitors should be particularly careful. Roumanian, Greek, South American, and old Papal States coins must all be tabooed. The non-current coins are good enough of their sort, but they are only exchangeable outside their own countries for their intrinsic silver-value. To complicate matters the Belgian Government has chosen the present moment for an attempt to clear the country of the hundreds of tons of copper coin now in circulation, and to replace it by nickel. When riding on a tramcar it is quite a common thing to be treated to a quarter-of-an-hour's

Hence ever-recurring rumours of cholera in Antwerp, rumours which Mr. De Courcy-Perry, the British Consul-



THE INTERIOR OF THE EXCHANGE.

General, is for ever slaying in the daily Press, only to find them risen again before his pen is dry.



ANTWERP FROM THE RIVER IN 1625.

squabbling in Flemish between the conductor and a fare about the validity or non validity of a five-centime piece.

It is often thought that Antwerp is still remarkable for its wealth of well-preserved buildings, dating from the Middle Ages and from the period of the war of liberation from Spain. The reputation is entirely undeserved. The cathedral, as much the lion of Antwerp as the "Dom" is of Cologne, still rears aloft the marvellous lacework of its one completed tower; the Town Hall, a few sixteenth-century churches, the splendid Plantin Museum, and the Exchange also remain as beautiful examples of the Antwerp of olden times, but most of the old dwelling-houses have been pulled down, and, architecturally, owing to much pretentious Hausmannising, the city no longer ranks among the most interesting places of Belgium. The beautiful view from the Scheldt has been irretrievably spoilt by the exigencies of modern commerce, in obedience to which miles of hideous iron sheds have been reared along the riverside. The new boulevards, or "leis," as they are called in Flemish, have all the monotony and but little of the interest of those of Brussels, and there are no spots of natural beauty in the immediate neighbourhood of Antwerp. Unfortunately, also, the Hausmannising has stopped above ground, and the drainage of the city—to judge by olfactory evidence—is now in the condition of that of Cologne a century ago, when Coleridge counted the historic

... Six and thirty stenches,
All well-defined, and separate stinks.

The Antwerp "Bourse," though not so large as our Royal Exchange, is a great deal handsomer and less uncomfortable. Between the hours of 1 and 3 p.m., when its floor is thronged with the mercantile element of the city, strangers are allowed only in the gallery, but after 'Change hours they are permitted to inspect the ground floor, which is well worth seeing.

IS THE EXHIBITION READY?

In addition to his periodical refutations of the cholera-scaremongers, the British Consul has lately been kept busy writing to the papers to deny assertions that the Exhibition is still unfinished. His last letter appeared only a few days ago, after I had left Antwerp, but from personal observation I can vouch for the fact that on July 4 the Exhibition, though in fair working order, had not yet reached completion. The British, Belgian, and French Sections were quite ready; in the German Court some half-a-dozen stands still awaited garnishing, and on the day of my departure some Bacchantic wine-growers' agents were busy crowning the framework of a large temple with imitation leaves and bunches of the grape. Several of the smaller courts were still in utter confusion—Japan, a wilderness; Persia, desolation; Turkey, faithfully observing the national motto of procrastination. On Independence Day, at the moment when something approaching anarchy prevailed over half

the American continent, the "American Propaganda" building was being opened with a great deal of noisy music and banging of guns, and such solemn adjuncts as processions of Captain Boyton's water-showmen, and the prancing "Indians" and "Mexicans" of Pawnee Bill.

The two great balloons, the "Aërial Castle" and the "Steerable Balloon," which have been announced as the chief outdoor attractions of the show, were not ready. They probably never will be. For the rest, the grounds are practically completed.

Old Antwerp, of which I shall have more to say presently, is unquestionably the most interesting feature of the Exhibition, and in itself worth a visit to Antwerp. The exhibition of paintings at the Fine Arts Gallery is excellent, and there is much that is worth seeing in the Congo State Section and the Arab and Moor quarters.

THE SIZE AND CHARACTER OF THE SHOW.

London, Paris, and Antwerp are the only cities which have been bold enough, twice within a decade, to convoke an International Exhibition within their walls. It would hardly be fair to reproach Antwerp with making but a bad third to her richer sisters; for her size (barely one-seventeenth of London or one-tenth of Paris, as population goes) the old city on the Scheldt has done very well. If the title "Universal Exposition" is understood to mean that all the chief raw and manufactured products of the world are represented, it is a decided misnomer as applied to the show now in progress at Antwerp; if it means that everything has been accepted that was sent in, it is nearer the mark, for a more extraordinary medley of valuable goods and rubbish was surely never seen. The last Antwerp Exhibition, in 1835, occupied an area of about 55 acres, and was participated in by 14,472 exhibitors. The present "Exposition" exceeds 115 acres in superficial area, but quite two-thirds of this consists of such "side shows" as Captain Boyton's Water-show, "The American Plaisance," "Pawnee Bill's Wild West," and various more or less realistic imitations of Moroccan cafés, Cairo streets, and Algerian, Tunisian, and other quarters. The main building, which faces the Avenue du Sud, is constructed on what appears to be the one and unchangeable plan of all exhibitions—a dome and a couple of turrets in the centre, glass-roofed galleries of the railway-station type on either side. This main building cost 10,000%. It is 1,500 feet long, and from 400 to 500 feet deep. The general effect is not at all displeasing, the decorations being very effective. Belgium occupies the central portion of the edifice, with France and Russia as neighbours to the right, Britain and Germany to the left. Austria and Italy are provided for further to the right, and the other European nations, with a few odd participants, such as China, Persia, Liberia, and Japan, are placed in a subsidiary gallery joining the main building at obtuse angles. This branch building, by a staircase, leads to the hall for machinery in motion and electricity, in which Belgium occupies about two-thirds, France, Germany, and Britain dividing the residue.

The extent to which the Exhibition is a "universal" one is seen from the fact that Belgium alone occupies 36,000 square metres of floor-space, France 15,000, Germany 10,000, the United Kingdom (with India) 7,000, the United States 4,000, Austria-Hungary 3,000, Holland 2,400, Russia and Italy 2,000 each, and other nations 3,000 in the aggregate. The British colonies are practically unrepresented. A couple of curiosity-bazaars are the sole exponents of the wealth of Ind. Absent, one and all, are the South American Republics, whose elegant pavilions made such a brave show in Paris and Chicago, but who have now discarded the arts of peace for the more exciting sport of cutting each other's throats and compounding with their creditors. The United States exhibit, flaunting the braggart device of "American Propaganda," is a promiscuous collection of rubbishing "notions" and commonplace machinery. The Transvaal, as befits a country allied to the Dutch and Flemings by ties of kinship, has a building of its own, near the machinery gallery, for its natural products—chiefly mineral.


THE GARDENS.

When I say that not one half of the visitors penetrate into the main buildings beyond the refreshment-rooms that line the façade and the space underneath the central dome—where, for very shame, the managers of the show have

placed a couple of dozen of free seats—I am well within the mark. As to the remainder of "serious" visitors, what do they see? Three-fourths of them saunter in a perfunctory fashion through the courts, languidly inspecting the furniture, bronzes, silks and woollens, the Belgian brewery exhibits at the entrance, the cannon, rifles, and soldier-models with which the galleries bristle, and the stalls at which small miscellaneous goods are offered for sale at exorbitant prices; and then dawdle out again, with the haziest possible notions of what they have witnessed.

The grounds are the chief attraction. I do not think there has ever been such an irregularly-built exhibition. It is utterly impossible to give any idea of its shape. Towards the west, where it faces the quay, and the south, its shape is fairly regular, but at the other sides it is the most extraordinary maze of blind alleys, nooks, and corners that human ingenuity could have conceived. Streets impinge upon the Exhibition grounds from every side, and not a few private houses and "estaminets" have perforce had to be embraced within its boundaries. A tramway-line traverses a part of the ground, and policemen have to keep watch along its track to prevent passengers descending into the Exhibition without paying. It is only right to the Exhibition organisers to say that they were confronted by great technical difficulties, for, until a few months ago, the area where the Exhibition now stands was a kind of waste ground. Some of it was used for drilling the warriors whose martial appearance impresses the visitor. Another portion was just passing through the state of transition from field to "eligible building-plot," so painfully familiar on the outskirts of capital cities. From a horticultural view the grounds are not a success, but then there has been little time to make them so. The absence of ornamental water, fountains, and large trees is painfully felt. Admittance to the Exhibition is only 1*fr.*, but the total cost of seeing the whole show is estimated at from 25*fr.* to 30*fr.*, for you cannot enter anywhere outside the main building without extra charge. The length to which this system of charging extra for everything, down to the smallest convenience, has been carried is very trying to one's temper. Seats in the grounds (10*fr.*) have been farmed out to two rival companies. One employs uniformed officials, who solemnly punch a ticket "available for two hours" as soon as you sit down; the other relies upon automatic machines affixed to the chairs, the seats of which drop down only when the spring is released by the penny-in-the-slot process. Here, if so disposed, you may avenge yourself in a small way upon your hosts by using the spurious coppers collected in your peregrinations. There is no need to enter into details about the ludicrous depths to which the system descends. The visitor will sound them before the close of his first Exhibition day.

A peculiar feature of the grounds is the lavishness with which they are peppered over with kiosks, booths, and stalls of all kinds. I counted fifty-nine "laiteries," "brasseries," "bars," "bodegas," "restaurants," and other refreshment-places in the gardens, and quite two dozen in "Old Antwerp." The Levantine quarters reek and seethe with booths for the dispensation of Rahat-Lakoum, sherbets and coffee, and way down by the "American Propaganda" the 'cute owner of "Ye Olde Homestead" tickles the stomachs of his globe-trotting countrymen by the appeal:—

 Brown Bread and Baked Beans !!

Old-fashioned Pie and Milk !

Home-dinner and Supper such as y^r Mother made !!!

—Weekly tickets—

I will now review the pharmaceutical contents of the Exhibition building, taking the British Section first, and proceed to talk the "shop" to which I have referred. In the course of my remarks on the exhibits, particularly on the really excellent and creditable display of Belgian industry, and the beautiful reproduction of sixteenth-century Antwerp, I shall have occasion to say things which will modify the, perhaps, rather unfavourable impression of the Exhibition conveyed in the first part of my report. But before entering the building I may call special attention to the most conspicuous thing in the grounds—viz.,

THE "KEMMERICH TOWER,"

an erection which, seen from the distance, looks somewhat like a lighthouse newly papered with advertise-

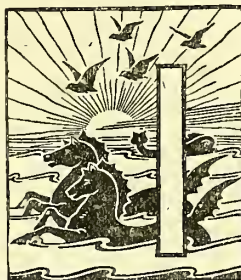
ment posters. It rises 215 feet above ground, just about half the height of the cathedral steeple, and is among the first objects which arrest one's attention when approaching the city from the river. The initial sensation is one of wonder what this singular, buff-coloured structure may be. Next, one observes red and blue tracings horizontally along its surface at regular intervals. Presently, when the ship lies moored at the quay, you realise that the buff-coloured tower consists simply of five monstrous superposed beef-extract jars, and that the coloured tracings are nothing but the blue lines of the facsimile label and the huge red letters, several feet high, of the beef-extract inventor's patronymic, and your feeling, according to temperament, becomes one of delight at the ingenuity of the modern business-man, or of disgust at the authorities who, for the sake of fee, sanctioned this outrage upon the artistic traditions of their city. Fortunately, Kemmerich's tower is not going to be a permanent defacement like those of Eiffel and Watkin. It is fair to its creators to say that their pavilion at the base of the monument fur-



nishes a pleasanter lounge than is afforded by any of the penny chairs in the sun-baked grounds; but it is sincerely to be hoped that the tower will not be the precursor of a new departure in exhibition features. The base of the monument consists of a gigantic showroom, containing an exhibit of the company's products, and surrounded by a covered gallery 30 feet high and 75 feet long. Above each side of the pavilion a gigantic stone bull, more graceful, but less venerable, than his winged ancestor from Nineveh, guards the meat-pots emblematic of the fate of millions of his kindred. The nethermost of the South American flesh-pots measures nearly 17 feet, the topmost over 9 feet in diameter. Santa-Elena and San-Javier, the two meat-extract establishments of the company on the Paraná river, in Argentina, occupy an area of about 155,000 acres—more than twice the size of the county of London, and nearly half that of the county of Bedfordshire. I was told that this area, which is considered a good-sized property even in the land of boundless pampas, does not give the company sufficient elbow-room for their operations, and that they have been obliged to rent additional land from the surrounding owners to accommodate their 200,000 odd cattle. In 1884, 12,000 head

were slaughtered, and in 1893 130,000 underwent conversion into extract, peptone, boiled beef, and ox-tongue for European consumption, or into the salted and dried *tasajo*, on which the South American working-class largely subsists. Quite recently Kemmerich's have begun the preparation of powdered meat for medicinal purposes. As an instrument of industrial propaganda the tower is certainly worthy of the scale upon which the operations of the company generally are conducted.

The British Section.



It must be confessed that the British Section, in point of number and average quality of exhibits compares unfavourably with Belgium, Germany, and France, while so far as neatness of appearance and intelligent grouping are concerned our inferiority is still more marked. This is due in large measure to the want of organised joint effort on the part of the Britishers. Exhibits of varying height, floor-space, and ornamentation are jumbled together in happy-go-lucky fashion. The most striking object in the section on account of size and beauty is a huge, white, square structure in which Hampton & Sons, the Pall Mall furniture-manufacturers, show a facsimile of Lord Salisbury's banqueting-hall at Hatfield. This, like so many other of the best exhibits, has been brought to Antwerp straight from the Chicago Fair. As, in Mr. Kipling's stories, Hathi the Elephant towers over all creation in the jungle, so Hampton & Sons' white elephant dwarfs all other things in the jungle of the British Section. Seen from the neighbouring German territory, with its broad gangways and abundance of elbow-room, the British Court gives the impression of some Eastern city, a multitude of small dwellings clustering round the great square palace of Hampton Khan, while a few of the taller cases, like that of B. W. & Co., figure as minarets, and, in the Indian annexe, the Messrs. Bhumgara, of Bombay, hold their bazaar of Eastern art works in an atmosphere redolent of cuscus and sandalwood.

According to the official catalogue, the British Section contains 211 exhibits. At the time of my visit these were all, with one or two insignificant exceptions, in their places and ready for inspection. Retail selling is carried on at a few stands only, most exhibitors being wholesale dealers, while others have apparently been deterred from keeping shop at their stalls by the high selling-fee (12*l.* in addition to the charge for floor-space) charged by the authorities. Contrary to all precedent, the Exhibition buildings at Antwerp are compulsorily closed at 6 P.M.; the reason given for this action being the wish to propitiate the Antwerp shopkeepers, who are afraid that the strangers would otherwise make all their purchases at the Exhibition. This rule may have deterred many exhibitors from taking out a retail licence. With a few notable exceptions, the British chemical and pharmaceutical industries are unrepresented, and it is to be hoped that few of the intelligent foreigners visiting the court will carry away with them the delusion that what they have seen there fairly represents the industrial resources of the island-kingdom whose commercial prosperity is so apt to excite their envy. As a matter of fact, the most imposing British exhibits are not in the British Court at all, but must be looked for in the machinery gallery and in the special "Navigation Section."

I will now shortly refer to that portion of the British exhibits which appeals directly to the professional or trading interest of the pharmaceutical visitor.

NITRATE OF SODA.

In proportion to its size, Belgium probably grows more beet-root for sugar-manufacture than any other country. Hence the consumption of nitrate of soda, the chief commercial form of nitrogen, is considerable, and the exhibit of the PERMANENT NITRATE COMMITTEE, 3 Gracechurch Street, London, attracts, as might be expected, a good deal of interest;

particularly from Belgian visitors, for whose benefit a plentiful supply of leaflets on the properties and uses of Chili saltpetre is made obtainable at the stand, both in French and Flemish. The nitrate exhibit is a large pyramid of superposed cubes of wood, painted white, and supposed to represent the decennial increase in the output of "caliche." Unfortunately, the exhibit is worse than useless for this purpose, the size of the wood blocks bearing no relation at all to the figures they are intended to represent, and which are painted black upon their surface. The enormous growth in the consumption of nitrate of soda, however, is sufficiently interesting to be recorded. The quantities exported from the South American West Coast during the first year of each decade were: in—

	1830	1840	1850	1860	1870	1880	1890
Tons ..	800	10,000	23,000	55,000	136,000	225,000	1,050,000

Until about the middle of the seventies nitrate was chiefly used in the manufacture of nitric acid, and the enormous increase in the output during the last two decades represents the rise of the nitrate-of-soda manure industry. The commercial romance interwoven with the history of the material is one of the most interesting in the world. Three of its chief episodes are the rise of one of the mammoth millionaires of latter-day industrialism, one of the most sanguinary wars that ever devastated the bloodstained soil of Peru, and the establishment of one of the greatest commercial syndicates the world has seen. The "Nitrate Committee" now consists of sixteen companies, mostly controlled by Colonel North, who is, in fact, the alpha and omega of the syndicate.

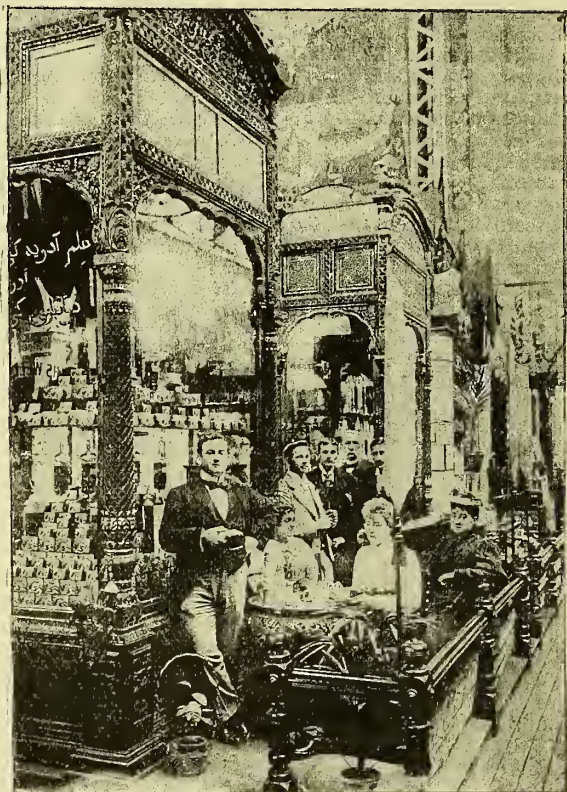
At the base of the pyramid are grouped specimens of "caliche" or native nitrate of soda, ranging from a mottled brown to a pale grey colour. The brown streaks in the caliche indicate the presence of iodine, the great by-product of the industry, which is also shown in a recovered state, although it is not brought into distributive commerce by the syndicate. The Belgian users of nitrate are mostly in the Walloon provinces, where agricultural holdings are larger than in the Flemish portion of the country. The agent of the Committee sells the nitrate by the truck-load, the small farmers clubbing together to purchase their requirements.

A PHARMACEUTICAL HAVEN.

Opposite the nitrate exhibit, bannerets bearing the legend "Rendezvous for Physicians and Pharmacists," in gold letters on a blue ground, mark the hospitable stand of BURROUGHS, WELLCOME & Co., one of the largest in the section, and the only one of a strictly pharmaceutical character. The exhibit consists of two showcases in carved wood, one containing specimens of tablets and other pharmaceutical specialities, the other devoted entirely to the tea-tablet business. The showcases were in Chicago last year, but this is the first time at which the tea-tablets have been shown at an international exhibition.

The stand is in charge of Mr. F. N. Martinez, who, with pardonable pride, turned over for me the leaves of the visitors' book, in which many flattering comments testified to the favour with which the exhibit is regarded. "Excellent," "admirable," "buenissimo," "magnifique," "grandissimo et superbe," are among the flowers of speech with which visitors have garnished their eulogies. The tea-tablets excite general interest, but Mr. Martinez refers the numerous would-be purchasers to the Pharmacie Delacre, in Brussels, the firm's general agents in Belgium. But though Mr. Martinez does not retail tablets, afternoon tea at B. W. & Co.'s is quite a familiar function in the British Section—so much so that one of the blue bannerets might well bear the notorious Anglo-maniac legend "On five o'clock quera a cinq heures," fashionable in Paris not many years ago. In the centre of the stand, carefully guarded by a glass case, is the medicine-chest, now dilapidated and discoloured, which Stanley carried with him across Africa on the Emin expedition. Beside it reposes a "Traveller's Medical Guide," so thumbled and dog-eared as to warrant the conclusion that, with the Bible and Shakespeare, it was the most frequently consulted work in the explorer's baggage. The Stanley chest has also been useful in teaching the quantitative proportions in which medicines should be put up for Central African travel, for in the modernised edition of the chest magnesia, quinine, and "thirst-tablets pour la soif" occupy a larger space than

in the original one. One pill in the Stanley case, labelled "Livingstone's reusers," is understood to have been the doctor's favourite remedy. Spratts' (Limited) and the Belgian



Government have each ordered a Stanley chest since the opening of the Exhibition; the latter intending to offer it as a prize in the State lottery which is being conducted in connection with the Exhibition.

Pharmaceutical Society of Great Britain.

We have received from the Registrar of the Pharmaceutical Society of Great Britain the following list of candidates who were granted certificates at the July meeting of the London Board of Examiners:—

Major Examination.

Anthony, Everard Percival, Bedford	Henry, T. A., Barrow-in-Furness
Ashby, C. E., Weston-super-Mare	Hill, Aubrey Thomas, Boston
Athey, George Hedley, Morpeth	Jackson, Thomas, Preston
Butler, Ernest Chas., Stamford Hill	Lander, Arthur, St. Keyne
Cowin, Wm. Stephen, Union Mills	Martin, George Hymers, Gateshead
Cox, Harry Bertrand, Shepton Mallet	Maskew, William, Easingwold
Davies, Robert Fisher, Pontarlawe	Mercer, Frank Norland, Farnworth
Dyson, Herbert, Derby	Roberts, George Daniel, Spalding
Foden, Thos. Henry, Birmingham	St. Cyr, Etienne Laurent Nelvil,
Gamble, Frederic Wm., King's Lynn	London
Gillitt, Albert Ambrose, London	Southall, Horace, Birmingham
Greig, John, Montrose	Ward, Joseph William, Gloucester
Harvey, Thos. Featherstone, Sfeby	Williams, William, Carnarvon
Hayward, Walter Edwin, Pudsey	

A SUGAR CENTENARY.—On June 30, the one-hundredth anniversary of the introduction of sugar-manufacture in the State of Louisiana was celebrated at New Orleans. All the sugar-planters in Louisiana were invited, and diplomas were distributed to graduates of the Sugar-experiment Station, who had passed a three years' course of study in sugar-industry. The Sugar-experiment Station was established in 1885, and numbers many foreigners, notably Spaniards and Spanish West Indians, among its students.

THE PHARMACEUTICAL SOCIETY *v.* ARMSON.

THE *Daily News* says the decision will impose caution on the vendors of patent medicines. The matter was really concluded by the finding of the County Court Judge as to the nature of the compound, a finding from which the higher Courts cannot depart. Of course, the proprietor of the medicine does not intend a whole bottle of it to be taken at once, and if at any time, by mistake or accident, this were done, even such a dose would apparently be innocuous under ordinary circumstances to an adult. But it was stated that it would be injurious—possibly fatal—to a child, and would probably be fatal to an infant. Henceforth the medicine must be sold by chemists only, and must be distinctly labelled poison. The effect of the decision is that if a patent medicine is poisonous, though only slightly, the public are entitled to full warning of the fact.

The *Daily Telegraph* says:—Another battle in the great struggle of the Pharmaceuticalists against the Grocerites has been fought, and the latter have again been beaten. The campaign arises out of the vast question, "Who shall supply the public with patent medicines?" Mr. Armson, a grocer at Derby, appealed against the decision of the local Judge and the Divisional Court ordering him to pay a fine of 5*l.* for selling a cough-mixture containing a poison. "When did opium cease to be opium?" was the question discussed by the counsel and Judges. The advocate for the grocer suggested as an appropriate answer, "When it became cough-mixture," but the Master of the Rolls rejected that as a *non sequitur*. "But," suggested the advocate, "there is also poison in cough-lozenges!" "Then I shall never take another one of them," remarked his Lordship. "Think of the inconvenience to the poor," pleaded the barrister, "if they are prohibited from getting their patent medicines with their tea and sugar!" "I think it would be a great advantage to them," remarked Lord Esher, sweetly, "because most proprietary medicines contain nothing at all, and if those who use them are cured, it is by faith." The Grocerites were again beaten, for the appeal was dismissed with costs.

The *Birmingham Mail* says:—The trial seems to have been a trade-fight between the chemists and the grocers, and the chemists have just won.

The *Newcastle Daily Chronicle* says that the decision is of considerable importance and amounts to the fact that if a poison is put into a medicine, and the medicine is sold, the person who sells the medicine sells the poison in it.

The *Grocer* says:—Another stage of the dispute between chemists and grocers, as to the sale of proprietary medicines, was reached on Thursday, when the matter was carried to the Court of Appeal. The case was that of the Pharmaceutical Society *v.* Armson. The Judges at first apparently thought that the question was a very simple one that could be disposed of in a short time. Eventually, however, their Lordships seemed to be impressed by the fact urged by Mr. Moulton that it was a trade-fight of the chemists who were trying to secure a monopoly. . . . From the judgment of the Court of Appeal, it will be seen that the important question of what is a poison must be determined by the quantity of poison present in the preparation sold. The effect of this is still to leave open the question of what proprietary medicines may and may not be sold. Whether this case will be carried to the House of Lords has not yet, we believe, been settled; but the present doubtful state of the law is most unsatisfactory and perplexing.

The *Medical Press and Circular* says:—Medical matters are not usually subjects out of which much humour can be derived, but the reverse has just been proved to be the case in regard to proprietary medicines. The manufacturers of quack nostrums were collectively treated to some plain, unvarnished reflections respecting their commodities by the Master of the Rolls last week. Counsel's arguments soon collapsed, and the appeal was dismissed. "All's well that ends well."

DEMONSTRATOR (in clinic): "You will notice that the subject's right leg is longer than his left, which causes him to limp. Now, what would you do in such a case?" Bright Student: "I'd limp, too."

Marriages.

ASHFIELD—NORTH.—On July 12, at Holy Trinity Church, Stratford-on-Avon, by the Rev. G. Arbuthnot, Vicar, Percy John Ashfield, A.P.S. of Crewe, to Emily, only child of C. Wesley North, Esq., of Stratford-on-Avon.

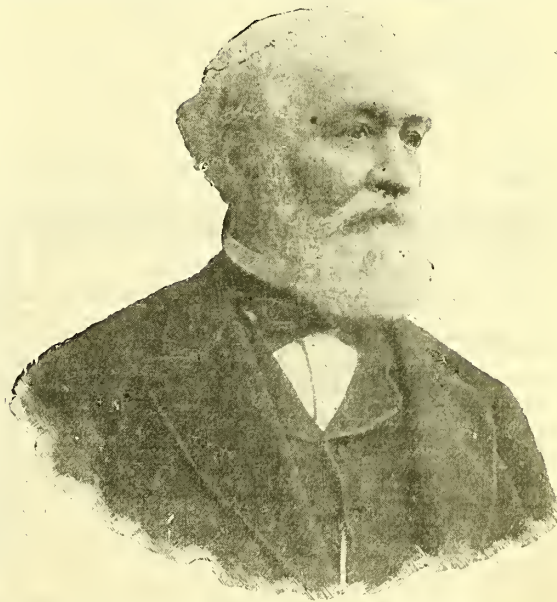
CROWDEN—LEWTHWAITE.—On July 12, at St. Andrew's Parish Church, Penrith, by the Rev. T. P. Monnington, M.A., Vicar, Francis Crowden, chemist, Penrith, to Jane Elizabeth Lewthwaite, Great Dockray, Penrith.

FLOWMAN—EWANSON.—On May 23, at Christ Church, Hawthorn, by the Rev. H. Taylor, Sidney Flowman, F.R.C.S., Eng., L.R.C.P., Lond., late of Boston, Lincolnshire, and now of Frankston, Victoria, to Mary, daughter of the late James Ewanston, of the Shetlands, Scotland.

Deaths.

ASKEW.—Mr. John Askew, dispensing chemist and druggist, Carnforth, aged 62 years. Deceased had been in business in the town for twenty years.

LAMPLOUGH.—Mr. Henry Lamplough, whose name has long been familiar to the public in connection with the "pyretic saline," of which he was the originator, died on July 12, at Rosslyn House, Richmond Road, New Barnet, where he resided. Mr. Lamplough was born 82 years ago at Bridlington Quay, in Yorkshire, where his father followed the occupation of a merchant captain. After receiving his schooling at Leeds, young Lamplough was apprenticed to Mr. S. H. Turner, chemist, of Scarborough. While in this employ he distinguished himself by saving the lives of two persons who were swept off the quay at Scarborough during a violent gale, an exploit for which he was presented with an



address and other tokens of appreciation. After completing his studies Mr. Lamplough migrated to London, where he started in business on his own account at Holborn, and soon acquired the fame that clings to the inventor of a new remedy. "Pyretic saline," Mr. Lamplough's speciality, is said to have brought its originator a considerable fortune. Mr. Lamplough, however, had yearnings beyond his business, and distinguished himself by writing pamphlets on such economic questions as the reform of the monetary system and the extension of National Savings Banks. In June, 1886, the business of the firm was converted into a company, with which Mr. Lamplough himself remained actively connected until 1890, when he finally retired on account of private financial troubles, his capital having been lost through the failure of an industrial undertaking in Wales with which he was connected. Mr. Lamplough leaves a son and two daughters, all married.

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BEST CLEANED LINSEED (For Tea)	17/	1 cwt. carriage paid; or 7, 14, & 28, & 56 lbs. free on rail Lond.
PURE STARCH POWDER	23/	1 cwt. carriage paid; or 7, 14, & 28, & 56 lbs. free on rail Lond.
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PURE FULLER'S EARTH (Fine)	14/	1 cwt. carriage paid; or 7, 14, & 28, & 56 lbs. free on rail Lond.

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Medical Press and Circular.

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Editorial Comments.

WHAT THE PUBLIC ANALYSTS WANT.

It must be admitted that the Bill which will be submitted to the House of Commons Committee by the Society of Public Analysts, embodying the amendments which that body think desirable in the Sale of Food and Drugs Act, is a very intelligent, an ably drawn, and in all respects a fair proposal. Traders interested, who will read the report of our interview with Mr. Otto Hehner on the subject of this Bill, will see that there is a sound arguable basis for every suggested alteration. It is also fair to add that there are very few indications of self-seeking in the document. The purpose of all the modifications seems to be simply that of ensuring the more efficient working of the Act, and the more effectual suppression of unfair and unwholesome trade practices.

The public analysts have a close acquaintance with the details of the old Act, acquired by an almost daily experience. Naturally they are able to point out its weak spots, and their suggestions for its improvement must be deserving of careful attention. They propose, it will be seen, (1) a definition section which shall include such articles as baking-powder, ginger, &c.; (2) the formal adoption of the British Pharmacopoeia as the legal standard for all medicinal preparations as are named therein, with possibly a schedule of exceptions; (3) a requirement that mixtures sold under the name of the principal ingredient shall be much more prominently labelled and definitely described than is now thought necessary; (4) withdrawal of sole control from local authorities over the appointment, and especially over the removal, of public analysts; (5) greater power to enforce the Act; (6) the appointment of a Board of Reference to regulate standards and recognised processes, and to direct—or at least to do something more than suggest to—the Somerset House chemists how their referred analyses are to be conducted and certified; (7) recognition of invoices, labels, &c., as legal warranties, and, consequent on this, the assumption of power to examine consignments of parcels from wholesale to retail dealers, and to take samples therefrom.

These are important changes, and, if adopted, they will be far-reaching in their effects. We do not suppose anybody nowadays wishes to reduce the efficiency of the Acts directed against adulteration and unfair trading. A great change has come over the spirit of our legislation since Mr. Bright described adulteration as a mere "form of competition." All honest people are desirous to suppress that form of competition. At the same time, sensible people want to suppress it with as little interference with legitimate business as possible. This desire, we do not doubt, actuates the analysts,

though we can hardly say it has always been their dominant characteristic. With the first five of their objects, as we have classified them above, we see no reason to disagree. In principle, if not in all details, these proposals seem reasonable, and calculated to improve the statute. Objects 6 and 7 are, however, more controversial, and need, to say the least, the closest investigation before they are adopted. The constitution of the Board of Reference proposed by the analysts is, we think, objectionable. We should strongly support an amendment providing that as many traders' representatives as analysts should be on that Board. Mr. Hehner says the Board is to originate and consider analytical work, and therefore traders as traders would be out of place on it. But he admits that questions would arise on which traders ought to be consulted, and he supposes they would be consulted. It would be more satisfactory if these consultations were not at the option of the Analytical Board. Then, too, it is desirable that the amount of control which the Board would exercise over the Reference Laboratory should be most carefully defined. The Somerset House chemists have done the delicate work committed to them well. They have not sought to advertise themselves, and this Mr. Hehner seems to charge against them as a deficiency. They have, no doubt, occasionally checked the too flourishing fame of some rising scientist, which is unfortunate; but it must not be forgotten that they have sometimes protected the reputation of a struggling tradesman. On the whole, we think traders will not brook much limitation of the independence of Somerset House.

The warranty question is another point which demands much thought. The analysts' scheme, we are told, is desired by the wholesale and retail traders almost unanimously. In our opinion if adopted it will simply wreck the Act. Its first effect will be to transfer the responsibility for the supply of genuine food and drugs from retail to wholesale dealers bodily, for there will be but few cases in which an invoice or label or something of the kind cannot be produced. Then, when the difficulty of getting a conviction against anybody is discovered, the power to intercept consignments will be put into operation, and the fireworks will follow. Neither consignors nor consignees will submit patiently to the practice of policemen tapping their packages at railway stations, and the Act will end by being a dead letter. Recent decisions have quite sufficiently extended the meaning of the warranty clause as it now stands. The qualification "written" might be omitted from the section, and retailers would then be quite sufficiently protected. A few prosecutions of wholesale firms might be undertaken in flagrant cases, and this would leave very little necessity for new powers or new enactments in this direction.

POISONOUS PROPRIETARY MEDICINES.

WITHOUT a shade of doubt or hesitation the Court of Appeal last week rejected the arguments submitted to them on behalf of the defendants in the case of the Pharmaceutical Society *v.* Armson. We may perhaps be allowed to assume that the dispute as to sellers of proprietary medicines containing poisons is from henceforth settled. The defendants can go to one more Court if they like, but we hardly anticipate that they will care to continue the contest any longer. They have fought a losing battle with astonishing persistence, and their courage—to give it the prettiest name available—has been of the utmost service to pharmacists. We leave absolutely unconsidered the possible opinion of the House of Lords, but content ourselves with noting that in

all the other Courts there has been a unanimity in the interpretation of the Pharmacy Act which a few years ago could not be said to have prevailed among pharmacists themselves. The reverse in the Delve case is not to be reckoned as an exception to this unanimity. It merely indicates the limitations of the Act, and, in effect, all the Judges have agreed with one another as to the decision in that case. They have all made it clear that they will not accept the construction of the Act which the Pharmaceutical Society's advisers contended for—that the evidence of the presence of any quantity of a scheduled poison in any article sold by an unregistered person sufficed to render that seller liable to a penalty. The Society's contention seems to us to be the logical one, and we should have thought it would have commended itself to the legal mind. The Pharmacy Act says nothing about poisonous quantities; it demands no evidence about danger; it declares simply that unregistered persons shall not sell certain substances named in a schedule which are described as poisons, and there it leaves the matter. And yet, when proof is given of the sale of a mixture containing some poison, but with no evidence as to the quantity, the Judges said, "This will not do. We must know how much poison there was present, so that we may have means of judging whether there was any danger to the public." The word "infinitesimal" had been introduced in the Delve case, and the Courts took refuge in the maxim *de minimis non curat lex*.

The point is not of much practical importance. If the unregistered vendors like to regard it as a compromise, there is no particular reason to object to allow them this small satisfaction. The Armson case establishes that the *de minimis* maxim does not apply where the total quantity of poison sold in a bottle of medicine is as much as one-tenth of a grain of morphia. The man who puts less than that into his specific must do so out of sheer wantonness; the poison can hardly be a necessary ingredient.

The two arguments employed by the appellant's counsel in the recent case did not much impress the Court of Appeal. That the "patent medicines" of the 16th section of the Pharmacy Act meant all the articles which in common parlance are so termed could not be so held, in face of the several sections in other statutes cited by Mr. Crump, in which a clear distinction between patent and proprietary medicines has been drawn. The other argument was more subtle. The Act forbids us to sell certain poisons, argued the appellant's counsel. Clearly that means the poisons in their simple state, else why add in so many instances "preparations of" those poisons. For example, said Mr. Moulton, we find in part 1 of the schedule prussic acid; in part 2 we have essential oil of almonds, if it contain prussic acid. But if the contention of the Society is correct, this need not have been inserted. The fact of prussic acid being contained would necessarily bring the oil within the schedule. Then what is a preparation of a poison? You cannot answer that question by asserting that every compound into which that poison enters is *ipso facto* a preparation of that poison. All bread contains phosphorus, but nobody would call bread a preparation of phosphorus. Many green silks contain arsenic, but they are not preparations of arsenic, and as such only saleable by registered chemists.

That reasoning, said Lord Esher, was too fine for him. He and his colleagues, and the other Judges to whom a similar question has been put, go to the kernel of the case. They say the Legislature desired to restrict as far as possible the sale of poisons, and one of the ways which they chose to accomplish this purpose was to limit the sale of these poisons to chemists. It is not desirable, say the Judges, that poisons in proprietary medicines should be sold freely.

If we have reason to believe that these medicines containing them may be dangerous to any human being, we hold that the Act is applicable. If you say we are injuring the business, we reply, So much the better.

With this consensus of authoritative opinion, therefore, it seems that the time has arrived when makers and vendors and the public generally should accept the position that the sale of poisons, and of medicines containing poisons, is to be strictly limited to registered chemists. The desperate efforts which the great unqualified have made to retain this business, and the substantial backing they have had from certain proprietors, has been somewhat of a revelation. There is evidently more in the poisonous proprietary-medicine business than chemists generally were aware of. Such as it is, it belongs to chemists; the Courts award it to them without hesitation; but it is the business of pharmacists or of their representative bodies, as it is their duty, to take care that the law is universally obeyed.

THE APPOINTMENT OF PHARMACEUTICAL EXAMINERS.

THE changes in the constitution of the Boards of Examiners which have recently been made seemed almost fated to pass unheeded by the trade, and we were therefore so much the more pleased to publish "Delta's" letter on the subject last week. His objections to the new scheme must not be treated lightly, and they certainly suggest directions in which it may be abused. But we believe that in actual practice his fears will prove groundless. His impression that the idea of the appointment of outside professors or lecturers on the Boards is the suggestion of the London visitor of the Privy Council is certainly erroneous. This idea is at least fifty years old. When a board of examiners was first spoken about, about the year 1842, it was a strong point with Jacob Bell that professors or teachers should be called in to assist in the more purely scientific subjects. This plan was fully formulated by Jacob Bell in what he wrote regarding the Board of Examiners, and when the constitution of the Board came to be expressed in charter, Act of Parliament, and by-law, the power of calling in professors or teachers to assist the pharmaceutical-chemist members of the Board was provided. As a matter of fact, that power is still in force, for by section x., clause 7, of the by-laws, the Council may at any time appoint "special examiners to conduct any examination or part of an examination, or to assist the Boards." It is obvious, therefore, that the recent resolution of the Council is consistent with the early spirit of the Society, and is really, as Mr. Carteighe called it, in the nature of an evolution. What is not clear is the proposal to elect the professors, &c., as members. This appears to be unnecessary, but it is probably meant to secure the application of the best men for the position.

There is much to be said in favour of the introduction of the professorial element amongst the examiners. The Boards are at present composed of men who have either had distinguished collegiate careers have done well in their examinations, or have devoted time to research and the publication of papers on pharmacy subjects. They have long passed the text-book stage of botany and chemistry, and cannot be quite in sympathetic touch with the student fresh from the laboratory and lecture-room. It may be questioned if any pharmaceutical examiner has ever kept himself fully posted in the current text-book literature of botany and chemistry, which is what candidates derive their knowledge from; but most examiners are familiar with current literature in the higher branches of the subjects, which circum-

stance is detrimental to candidates' interests, because the examiner's familiarity with the latter knowledge tends to give it importance in his mind over the former. It is here that the professor equally versed in both branches should be the superior examiner. He is better capable of descending to the candidate's level. The selection of professorial examiners will certainly have to be made with care, but we do not think it need be assumed for a moment that the Council will use its opportunities in this direction to give an unfair advantage to any school. We find ourselves also compelled to differ from "Delta" in regard to the retirement of examiners at the end of four years' service. This is a proposal made with the object of securing variety in the examinations. Observation leads to the belief that an evil does exist in the examinations as at present conducted. Every coach is able to tell his pupils what Mr. Blank's line of examination is in chemistry, botany, materia medica, or whatever he examines in, and it is a notorious fact that some examiners ask the same questions to-day which they asked ten or twenty years ago. This system has had more to do with the creation of cram in pharmacy than anything else, and the four years' system will be a direct and probably an effective check to it. There are other things to be said in favour of the new system, chief of them being the opportunity which it will give to a much larger number of pharmaceutical chemists to serve as examiners, and the creation of a reserve corps of experienced men. As it is the intention of the Council to call these men into action from time to time there is little fear of "a very junior Board" ever coming into existence; while the freshness of the examination will always be a good set-off to any leaven of rawness which may follow the introduction of new men into the Board.

THE FLASH-POINT OF BURNING-OILS.

An agitation has been on foot for some time past with a view of obtaining governmental authority for raising the flash-point of burning-oils above the standard at present in use. The standard adopted in this country is 73° F., and has been in force since 1879; and even at that time many who were well able to judge thought that a standard of 100° F. would have been a safer point. The late Dr. Young, of Kelly, the founder of the industry, was the most prominent supporter of a higher flash-point, and experience and statistics have proved the correctness of his views. His son, Mr. T. Graham Young, has recently presented to each member of Parliament a short pamphlet in support of his views, in which the various points are lucidly put forward, and which will doubtless cause a movement in the required direction. It is obvious that a standard, in order to secure safety to users of the oil, should be fixed outside the range of any temperatures likely to occur under ordinary conditions, whether in burning or in storing—otherwise it is not a standard of safety. That the official standard is too low is shown by a glance at the shade temperatures recorded last summer, when in London sixty days occurred on which temperatures above 73° F. were registered, including twenty days when it was from 80° to 90°, and three days when the thermometer registered 90° to 100° F. If to these temperatures the heat of a kitchen or workshop be added, the absurdity of a 73° F. flash becomes evident. The Registrar-General's returns place the number of deaths from lamp-explosions in England and Wales at an average of 100 per annum, while the London firemaster's report shows that in 1893 in London alone 111 fires occurred directly due to lamp-explosions. It is important to note that had high-flash oils been used, these accidents could not have occurred. In

Scotland, for instance, before petroleum began to be used, a lamp-explosion was unknown. Abel and Redwood in 1890 reported on twenty-eight accidents, twenty-three of which were due to lamp-explosions—the oil having a flash varying from 73° to 88° F., which proves that even 88° F. is too low a point for safety. An objection, raised by Abel and Redwood in their report, to the use of high-flash oil, is that these oils produce more heat in burning than low-flash oils, and so increase the danger. Subsequent experiments in this direction quite controvert this statement. The standards in the United States and Canada are 100° and 95° F. respectively, and though attempts have been made to lower it, no necessity for so doing has yet arisen. The British Government will not allow in their stores oil with a flash of less than 105° F., showing that, while alive to their own interests, sufficient attention is not paid to the public safety. However, it must be evident that when oil with a flash of 73° F. (Abel) is carried in bulk, in tank-steamers, considerable danger to shipping and warehouses occurs when the steamers are docked. Oil in large vessels flashes at a much lower temperature than in the small cups used in Abel's testing-apparatus, and additional danger is incurred from this fact. Accidents to steamers carrying petroleum, of course, are very numerous, and when a leak occurs in a tank during a voyage, it is extremely difficult to stop, owing to the enormous risk attending the use of a light in executing repairs. The Scottish Section of the Society of Chemical Industry last year adopted resolutions approving of the raising of the flash-point to a minimum of 100° F., and the Manchester Section as far back as 1890 passed a similar resolution. The Home Secretary has now proposed an investigation, and if a committee is formed there will be no doubt that all the evidence will point to a move in the desired direction.

THE SPIRIT OF THE CAMPHOR TREE.

Borneo or Barus camphor, the product of *Dryobalanops Camphora*, is nowadays never met with in European commerce, and can only be seen as a curiosity in a few materia medica museums. But there is good ground for believing that when the drug was first used medicinally in Europe, which was at some period of the twelfth century, this variety, and not the Chinese or Japanese product, was the kind employed. We quote some particulars regarding the peculiar ceremonies connected with the collection of the gum in Johore, which were given by Mr. Harry Lake, engineer in the service of the Sultan of the State in the course of a paper recently read before the Royal Geographical Society. Mr. Lake mentioned that the valuable borneol, or Borneo camphor crystals, are found in only few specimens of the tree, and, in order to propitiate the spirit of the camphor-tree, which is known to them by the name of "Bisau" (literally "a woman"), and secure a favourable result on their camphor-gathering expedition, the Yakuns, or aboriginal inhabitants of the country, who dwell in the forests where the tree grows, have recourse to a species of witchcraft, "Pantang Kapor," or the "prohibition of camphor" ceremony, which consists in speaking the "camphor language" and observing certain practices. The camphor spirit is supposed to have her resting-place near the trees containing crystals, and when, at night, a peculiar noise resembling that of a cicada is heard in the forest, the "Bisau" is said to be abroad, and camphor will be found. The language of the camphor spirit consists of a mixture of Jakun and Malay words reversed or otherwise altered. During the discussion on the paper the Dato Abdul Rahman, secretary to the Sultan of Johore, who was present, observed that the reason for the transposition of the words in the camphor language was that the spirit of the tree is supposed to understand both Malay and Jakun,

and that in order to approach her it is necessary to use a language unknown to her. Barus camphor is very largely used in China for embalming bodies, as an incense, and as a medicine. Its market value is many times that of Japanese or Chinese camphor—indeed, the finest specimens are worth their weight in gold.

TOPICS FOR DISCUSSION.

WE asked last month for suggestions for postcard competitions from those who regularly or occasionally take part in these exercises. We had a fair response, as far as numbers went, but a very unsatisfactory one indeed from a practical point of view. A large number of correspondents propose competitions which have already been carried out in this journal, or modifications of these. Several cards suggest a new competition for the advertisement of Mr. Blank's Liver-pills, or some other of his specialities—a subject we have only just got through. Some are original enough to recommend that this should be in the form of a handbill this time. One idea is to invite competitors to send in twelve words on a postcard, supposed to be a sixpenny telegram ordering a box of Blank's Liver-pills, the telegram to be afterwards used as an advertisement. A very large number of competitors suggest topics for essays which could hardly be treated on postcards. With an almost pathetic faith in the genius of their *confrères*, two or three dozen of our carders urge us to offer a prize "pointing out," as one puts it, "the means, if any, of preventing the spread of company pharmacy." "How to stop grocers selling drugs." "How can the ever-increasing competition of drug-companies and of large grocers be averted or minimised?" "The best method of combining to meet the ruling low prices and keen competition." "The best remedy for extreme cutting." "The best suggestions for the protection of the general business of the qualified chemist from invasions by grocers, co-operative societies, and drug-stores." "The best method to put down company-pharmacy." "The best scheme for preventing cutting and for maintaining profitable prices." These are specimens of a great number of suggestions sent in, and they show how general is the dissatisfaction with the present condition of things. We can only say we have got some guineas ready for anybody who will devise a means for ensuring to all chemists a good income, but we cannot ask for "schemes" to accomplish this result. We have published enough of these. So far as they depend on universal acquiescence and the dictation of an Act of Parliament, it would be as practical to ask that the stars should be stopped in their courses.

Some want assistance in passing the Minor; some propose that we should invite charades or conundrums; six seek our soft side by suggesting essays on the merits of THE CHEMIST AND DRUGGIST; one goes more to the point by advising that we should ask for hints as to how to improve it. Even he, however, is thoughtful enough to insert the qualification, "if possible."

Starting a speciality, a formula for a speciality, a name for a speciality, and pushing a speciality are the subjects selected by about three dozen correspondents. Labels which should not involve liability to medicine-stamp, the most saleable six to put up, are also suggested.

Possible improvements in the Pharmacopœia, faults in the Pharmacopœia, errors in prescriptions, the relations of doctors and chemists, counter-prescribing, the reform of the Pharmaceutical Society, eulogy on the Pharmaceutical Society, the amendment of the Pharmacy Acts, are among the other topics dreamed of. The most popular patents, the most useful books, the most popular sundries, the most popular perfumes, the most popular poisons, the most popular health-resorts, the most frequently prescribed medicines, the most popular commercial travellers, are among the voting competitions proposed. Many of these have already been done.

We shall hope to select one of the topics for next month's competition, and will then award the prize.

FOOD-ADULTERATION.

THE Select Committee of the House of Commons on this subject met again on July 13, Sir Walter Foster presiding.

Evidence was directed to the difficulties encountered in the provinces in getting the Acts enforced and to protecting the public by prohibiting butter and margarine from being similarly coloured. Colonel Curtis Hayward, who had been connected with the Dairy Products Defence Association, stated what had been done in the town of Gloucester. The Association had done useful work in places where the Acts were in abeyance. Butter purchased at ninety-four shops in Gloucester resulted in the public analyst reporting that fifteen of the purchases were adulterated from 20 to 40 per cent. English people required their butter to be highly coloured, and he thought that to prohibit the colouring of English butter while allowing foreign butter to be imported coloured would be most unfair. English butter in many retail shops was so mixed up on the counters with margarine similarly coloured that the bulk of the purchasing public was deceived. Again, the retailer could afford to sell the small proportion of English butter at a low price if it assisted him to sell a large quantity of margarine at 50 per cent. profit. He had no doubt margarine was largely consumed in cheap restaurants spread upon bread. If it were required to be coloured pink he did not think the public would eat it. (Laughter.) As a producer of genuine butter he would like to see margarine compulsorily coloured pink, but the suggestion was hardly a practicable one.

Mr. George Ebbrey, public analyst of Gloucester, also gave evidence in regard to butter. In regard to milk he believed it was within the power of analysts to put down a standard which would not interfere with honest dealing. A fair standard, he thought, would be 11.5 of total solids. In reply to Mr. Kearley, he said he would hold the retailer responsible for vending adulterated articles which were imported, because a retailer ought not to carry on a business unless able to judge of the composition of the article. There was no doubt that the low standards fixed by Somerset House prevented public analysts in the country reporting cases they detected, because disagreement with Somerset House to a small man, although he was perfectly right in his analysis, would be a most serious thing. The Committee adjourned.

On Wednesday, July 13, the Committee met again at an unusually late hour, the members having desired to be present at the Government statement in the House.

Mr. Bannister, of the Government laboratory at Somerset House, was recalled for further evidence. In reply to Mr. Jeffreys, he said he had not the slightest doubt that the fixing of any standard for milk would lead to the watering down of the best milks to that standard.

Mr. Jeffreys: But if Parliament appointed a standard it could reserve power to punish for watering down to it.

Witness: That power ought to be preserved. Still I am not in favour of a standard. He was, he continued, more in favour of increasing the stringency of the Adulteration Acts than of interfering with foreign butter at the ports. There was more difficulty in dealing with foreign butter at the ports than there was with tea, because the latter article was only imported into one or two of the United Kingdom ports in consequence of Customs regulations. At Somerset House they tested both foreign and English butters, and generally speaking all the adulterations were found in foreign butters.

By Mr. Kearley: Butter being a perishable article placed a difficulty in the way of adulterated foreign butter being stopped for examination at the ports.

If a sample package of an importation were condemned after the delay for analysis, its detection would be useful in stopping other consignments from the same quarter, but in the meantime that would not prevent first consignments going into consumption. He believed that the public analysts in the country on the whole did their work remarkably well, and that when differences as to results arose between them and Somerset House it was due to different interpretations, and not to mistakes in analyses.

In regard to milk the Somerset House analysts would not have so wide and varied an experience perhaps as public analysts would. Somerset House did not make a general

practice of communicating new developments, methods and results to country public analysts, but did communicate with some. Such a method of inter-communication would be generally very desirable, and did now prevail to an extent. There was no journal published by Somerset House which would be the medium of such inter-communication.

Mr. Kearley: How many years is it since you have issued a manual from which the public analysts in the country might gain the advantage of the Somerset House experiences?

Witness: Some time, but the year I cannot say.

Mr. Kearley: There is not any systematic publication to which the analyst can look to for inspiration from Somerset House?

Witness: No; there is not.

Mr. Kearley here desired to put in and read correspondence on this point, and the room was cleared as to this procedure. On being reopened, nothing transpired as to the discussion that had taken place among the members.

On the examination of the witness being resumed, Mr. Kearley asked his views as to the desirability of a standard of analysis as to milk being agreed to between Somerset House and the country public analysts.

Witness replied that there were now practically so few variations that the two practically agreed. He was not aware that some of the large dairy companies had expressed an opinion in favour of a standard for milk.

Mr. Kearley said he understood that formerly they were averse to a standard, but were now in favour of it.

Witness continued that there was no standard at Somerset House applicable to butter adulteration. He would like to see 16 per cent. the limit for water in salt-butter. A case of Australian butter recently came before him, and it contained only 4 per cent. of water. He would, therefore, at the same time, wish it regarded as an adulteration to increase that 4 per cent. to 16. He had recently been told by a large provincial butter-factor that his customers were objecting to Irish butters on the ground that they contained more water than the continental butters did. He did not agree with the suggestion that had been put forward for a central representative laboratory, as when it was first put forward it was at once suggested that there should be a chemist and druggist upon it. That indicated that it would be necessary to allow all trades to be represented on it.

By Mr. Colman: He thought that separated milk was preferable to skim-milk for children, as skim-milk was milk just on the point of turning sour. Separated milk was a capital thing for bone and tissue, and quite suitable for feeding children getting a sufficiency of fat in other foods.

By Mr. Yerburgh: He believed there was a general feeling in France in favour of the suppression of margarine.

The Committee adjourned.

THE SALE OF FOOD AND DRUGS ACT. WHAT THE ANALYSTS WANT.

AS mentioned last week, a draft Bill has been approved by the Council of the Society of Public Analysts embodying all the amendments which, in the opinion of that body, should be introduced into any future legislation aiming at the suppression of the adulteration of food and drugs. In this Bill most of the sections of the existing statutes are re-enacted, the modifications proposed being made with as little disturbance of the now familiar verbiage as possible. After a careful examination of the analysts' Bill, a *C. & D.* representative called on Mr. Otto Hehner in his City laboratory, happening to be aware that that gentleman had been specially active in the advocacy of new legislation, and had taken a leading part in the production of this document. Mr. Hehner said he would be very willing to answer any questions in reference to the draft Bill, and had no other desire than to be perfectly frank as to the position taken by the analysts.

The first novelty found occurs in section 2, which defines food to include every article used for food or drink by man, other than drugs or water [or any article intended to enter into or be used in the preparation of human food, and all flavouring matters and condiments]. The words bracketed are the new words.

"The object of introducing that phrase," said Mr. Hehner, "is to bring within the act such substances as baking-powder, ginger, &c. Cases have occurred in which these have been held not to be foods, and unless such phrase be added, many other articles will be liable to be excluded from coming under the Act."

"Under section 6 you have omitted the four defences. Why?"

"They are all provided for," said Mr. Hehner. "The first, third, and fourth exemptions, which relate to additions required for the production of the article, or unavoidably associated with it in the process of collection or preparation, are either dealt with in section 8 or would be matters to be determined by the Board of Reference, which we shall come to later on. The second, which states that a proprietary or patented article is exempt, is unnecessary. If the inspector asks for an article sold as a special preparation and gets it, he has no reason to complain."

"The next insertion is of some importance to pharmacists. You say—"

"Any drug sold under any name included in the British Pharmacopœia shall be required to comply with the description, character, and tests for such drug as specified in the latest edition, with amendments, of the British Pharmacopœia, provided that the drug be not included in the list of exceptions authorised to be issued under section . . . of this Act."

"This is inserted," Mr. Hehner observed, "with a view of making definite and uniform what is generally taken to be the law. It is only desired by the analysts to have a standard approved by the trade, and to avoid friction as much as possible. To this end any suggestions as to exceptions to be named in the schedule will be welcomed."

"With such a clause enacted, would you consider that an article not named in the Pharmacopœia could be required to correspond with something else which was named there?"

"No, surely not."

"Milk of sulphur and spirit of nitre, for instance. Have not analysts claimed that these should come within the descriptions in the Pharmacopœia of precipitated sulphur and spirit of nitrous ether?"

"I am scarcely sufficiently familiar with the drug prosecutions to discuss these points; but any article sold under the name of any article included in the Pharmacopœia, or the synonym of such article, ought, in the interests of pharmacists, to have the composition prescribed by the Pharmacopœia. If this were legally admitted, the analyst would have nothing to do but to ascertain whether the article were of pharmacopœial quality."

"But does he not suggest the prosecution in many of these cases?"

"Certainly not; never in my experience. Don't run away with the idea—which is unfortunately prevalent and utterly erroneous—that the analyst is a prosecutor. Of course, out of the 39,000 articles analysed annually there may be a few cases where some irregularity has occurred, but the practice must not be judged by these."

"Well, now, to come to section 8. You introduce some important additions there. I notice that you require that the defence of labelling an article as a mixture to be sufficient shall be much more prominent than heretofore. You say that the vendor

shall supply to the person receiving the same, a notice, by a label distinctly and legibly written or printed, affixed to the containing vessel or parcel, and on the outside wrappers of the article or drug, in characters more prominent than any others, upon any label or other thing, upon or with such article of food or drug, describing such article of food or drug as a mixture, and naming the ingredients thereof, and their relative proportions, or declaring its deficiency or deficiencies.

Do you expect to carry that?"

"Perhaps not in exactly that form; but I think something like it is only reasonably fair to the public. Remember, this does not apply to proprietary articles when sold under a specific name, because, if the purchaser obtains a proprietary article, having asked for it, he obtains an article "of the nature, substance, and quality" demanded. We do not want anyone to reveal his secrets; but we do not think it sufficient that on a tin of condensed milk, for instance, where there is, perhaps, a yard of print nearly, it should be a sufficient defence to say that, hidden somewhere on that label, there are a few words, which not one person in ten ever reads, stating that the

article is prepared from skimmed milk. So if we buy coffee or mustard, as such, we think it is not sufficient to label it 'This is a mixture,' in order to allow of any other ingredients being added, in almost any proportion."

"This, too, is a new paragraph, I think:—"

"It shall be no defence, under this section, to plead the accidental deterioration of the article, or accidental abstraction or spontaneous separation or evaporation of the ingredients."

Why is this inserted?"

"I will give you an instance. A milkman sold milk which was said to have been skimmed. His defence was that he had not kept it sufficiently stirred up, and that the first customers had therefore had more than their share of cream. The Magistrates allowed this defence and dismissed the summons, but the High Court reversed the decision. We only insert that so as to have the Act express what is the actual law as interpreted by the High Court. A druggist, also, is responsible for the composition of articles liable to spontaneous alteration, such as lime-water or spirit of nitre."

"This would not, I suppose, prevent a defendant pleading an accidental deterioration with a view to mitigating the penalty."

"I should think not. If it would, some words might be added to explain that this was not intended."

"In section 10, in dealing with the appointment, &c., of public analysts, you take away the power now vested in local authorities 'to remove him or them as they shall deem proper' and substitute the following words:—"

and they shall not remove him during good behaviour, and all appointments, remunerations, and removals shall at all times be subject to the approval of the Local Government Board, in consultation with the Board of Reference provided for in section 30.

"Yes, that is an important alteration. I will explain it rather fully. An analyst who fulfils his duty thoroughly may become a not very agreeable person to some of the local authorities. This case is not a hypothetical one. An analyst had occasion to condemn some adulterated milks, the vendors of which were on the Vestry. A section of that Vestry carried a resolution that the analyst's appointment should be determined. In the case I have in my mind the Vestry did not ultimately adopt that recommendation, but there have been many instances in which injustice has been done. Just consider. An analyst may always have done his work with care, skill, and diligence. He has established a laboratory at considerable expense, and the local authority has no fault to find with him. But a new man, who is a friend of some influential man on the Council or Vestry, appears, and this latter exercises his influence to dismiss the old analyst, and to get the appointment for his friend. That dismissal may be very disastrous for the reputation of the analyst who is thus dismissed; it might ruin him. Quite recently the Derbyshire County Council have dismissed their analysts. Mr. Allen held the appointment for North Derbyshire, and I was the analyst for South Derbyshire. We had both over and over again urged on the Food and Drugs Committee of the Council their duty to enforce the Act more effectively than they had, Derbyshire having often been held up in the reports of the Local Government Board as a county flagrantly evading the Food Acts. Lately the County Council became impatient and remonstrated with the Food and Drugs Committee, pressing them to apply the Act. The consequence was that, simply out of irritation, we have both been dismissed, though they express themselves in the strongest terms as being absolutely satisfied with our work. What we want is that these appointments and removals shall be under the control of an independent, competent, and unbiassed authority. At the same time I would read the expression 'good behaviour' in its widest sense."

"The next novelty, section 13, subsection (b), is rather startling. You say—"

"(b) Any person authorised to take samples under this clause may procure at any railway-station, or elsewhere during transit, whether within or outside of the district in which he is empowered to act, or at the place of delivery, any sample of any article of food or drug which may be consigned or addressed to any person or persons within the limits of his district in pursuance of any contract for the sale to such consignee, and such officer shall submit the same to the public analyst of the district appointing him and the same shall be analysed, and proceedings shall be taken and penalties, on conviction, be enforced, in the like manner in all respects as if such

officer, inspector, or other person had purchased the same from the seller or consignor under section 13 (a) of this Act."

"This," said Mr. Hehner, "is only applying to all substances the law now in force as it affects milk and tea. It is desired by the wholesalers as well as by the retailers, and it is the only way of enforcing the law fairly against both these classes. The wholesalers say they are aspersed now by defendants continually producing invoices in court, and stating that the adulterated articles sold by them were in just the same state as when they were bought. If samples were taken from the consignment the wholesale houses could defend themselves."

"But what will be said if attempts should be made to put this clause in operation. When a constable goes to the railway-station, for instance, and opens a hamper of drugs and selects a few articles for analysis?"

"We have hardly had hampers of drugs in contemplation, but such a thing has never happened with butter or any article now under the Act, and is not likely to occur."

"Well, then, say a case of wine."

"There, again, I may remark in parenthesis that there has been no prosecution as regards wine under the Act. What we have in view is such goods as foreign produce, lard, butter, &c."

"In section 14 you retain the old form requiring the inspector, having purchased something for analysis, to offer to divide it into three parts. Do you know of any reason why this division should not be made a matter of course?"

"No. The offer is generally accepted; but I do not see why in cases contemplated in that clause the division should not be compulsory if it were preferred. As an analyst, I would prefer to receive one-third of the sample only. You will notice the next subsection, which provides that in certain cases where the nature of the article does not admit of such division, it may be taken to the analyst, who may himself divide it into two parts, one of which is to be sealed and delivered to the purchaser."

"What sort of articles are these?"

"Such as seidlitz-powders, dispensed medicines, aerated beverages, &c."

The next alteration occurs in section 18. The analysts suggest that it shall be made clear that the analyst shall not be required in his certificate to give the analytical data on which his opinion is based. This, Mr. Hehner explained, is to clear up a doubt. The form of the certificate is prescribed in a schedule. It now requires that the analyst shall say he is of opinion that it is genuine—in which case the rest is erased—or "that the said sample contained the parts as under, or the percentages of foreign ingredients as under." The question has arisen whether the exact analytical results are required—so much fat, so much solids not fat, so much ash, &c. (in the case of milk)—or whether it is sufficient to state so much milk and so much added water. In the case of butter, for instance, it is virtually impossible to give figures in a certificate, as such terms as "Iodine absorption," "Reichert," or "Koettstorfer number," would be utterly unintelligible to the magistrates, and if given would only confuse the court. Magistrates have dismissed summonses because the chemical details had not been given. As the analyst's attendance may always be required, it is contended that this information is not essential to the certificate. The form of certificate scheduled by the analysts is simplified thus:—After stating that a sample was received on such a date, it adds only in print, "I am of opinion that" a blank being left for the opinion.

A new section follows compelling every local authority to cause their officers to take for analysis not less than one sample per annum for every 1,000 inhabitants of the district, and making provisions to get the Act carried out by the Local Government Board at the expense of the local authority should the latter neglect its duty. The proportion named, Mr. Hehner observed, is less than that actually taken in places where the Act is in fair operation, and is the minimum recommended by the Local Government Board.

Section 22 is that which authorises justices in their discretion to send samples, in cases of dispute, to the Somerset House laboratory. The analysts propose to let this laboratory continue these functions, but they would add the following instructions:—

The chemical officers of Somerset House shall state in their certificates whether the article, in their opinion, is genuine or adulterated, or is, or is

not, of the nature, substance, or quality of the article indicated in the summons, and whether their analysis is in substantial agreement with that of the public analyst, and whether at the time they made the analysis the article was in such a condition as to allow of the results obtained by its analysis to be fairly comparable with those obtained by the public analyst. And the justices before whom the case may be heard may, at the request of either party, require the attendance of the officers of Somerset House who made the analysis, to give evidence in explanation of their certificate, and shall give a decision with the whole of the evidence before them.

Mr. Hehner was very fluent in his comments on this clause. He said:—"We must have a reference laboratory, and if the referees would only treat scientific men fairly, and as scientific men treat each other, I do not know that there is a better one available than Somerset House. Any one may check my analyses if he is bound by the same methods and standards and by the same form of report. But is it fair that the referees should have standards which we are not told of, and should follow processes which have never been openly discussed, and which are known, or believed, to be of doubtful value? We might submit to the arbitration of an authority of world-wide reputation even without having an exact statement of the details of his analysis. We might, for example, accept Dr. Frankland as a referee on water-analysis in that way. But can we be expected to repose the same confidence in men whose very names are scarcely known outside the Strand (with the exception of that of Dr. Thorpe, the newly-appointed Principal, whom every chemist must respect as a man of science), and who have never given such proof of their superior knowledge as to justify the assumption that the results of their analyses are to be taken as final, or practically final, without any evidence as to their working? If, for instance, Dr. Dupré reports on a sample of wine, nobody knowing more about that subject than he, or if I, who have made butter-analysis my special study these twenty years, declare a sample to be adulterated, are our certificates to be overruled without the slightest indication of the reasons why a contrary opinion is arrived at? Is that a proper position for scientific men to occupy? If I report on a sample of milk, and that sample goes to the referees, should they not, before condemning my analysis, state what condition the milk was in when they analysed it? If it had decomposed meanwhile, they cannot possibly get similar results, or such that are comparable in accuracy with those obtained by analysing the fresh milk. A sample of so-called malt vinegar is sent to them. The analyst has certified that 20 per cent. of it was malt vinegar and 80 per cent. was acetic acid not derived from malt or grain. The referees report that 25 per cent. of it was obtained from wood and 75 per cent. made from malt and sugar. The analyses really supported each other; but the form in which the Somerset House certificate was expressed would lead people who did not understand the matter to suppose there was some great discrepancy."

"Do you object to them, then, simply because they do not sufficiently consider the analysts' interests?"

"No; that is not all. I speak in the interests of justice and of the public. In that malt-vinegar case, if it had not been for the shrewdness of the prosecuting solicitor the summonses would have been dismissed. He was able to explain the certificate, and the Magistrates found that the vinegar was adulterated. Many summonses are dismissed on account of a difference of stating the results, or the percentage of adulteration, though both analysts may have found adulteration. There must be, as I said, some laboratory or authority to which disputed samples can be sent, and the one at Somerset House might be as good as any other. But what is needed is, that the referees and analysts alike should be guided by standards and work by processes laid down by an authority which we all recognise. This body we propose to create in the Board of Reference, which we shall come to directly. This is similar to the proceeding adopted in Germany, where the Imperial Board of Health is the referee authority, and is so constituted as to command everybody's confidence. In Canada they have a chief analyst as Government referee, but standards, &c., are discussed among the analysts themselves. In the United States there is an enormous amount of legislation, varying in different States; but the Government chemist, Mr. Wiley, publishes frankly all his methods and processes in admirable reports, publicly issued and widely distributed."

The question of warranty occurs in section 25. At present

it is a sufficient defence if a retailer, charged under the Act, can produce a written warranty of the articles analysed, and can satisfy the Magistrates that he had no reason when he sold the article to believe it to be other than what he sold it as, and that he sold it as he purchased it. In Sir C. Cameron's Bill, which was supported generally by the grocers and provision-dealers it was proposed that the invoice should be in itself a warranty, as is the case under the Margarine Act, and later in the Fertilisers and Feeding-stuffs Act. The analysts adopt this proposal and, if anything, extend it. They propose that

The term "warranty" in this Act shall include any written or printed document, invoice or label, purporting to be a warranty or invoice, but shall not include a mere verbal declaration.

Speaking on this subject, Mr. Hehner said, "We aim to place the dealer in the same position as the private purchaser. If the latter purchases milk he need not have it warranted—he has a legal claim to get genuine milk; but the dealer is only protected if he get a specific warranty, and this perhaps the wholesale house will not give. It may be he is not in a position to insist upon it. Perhaps he owes the wholesale house some money, and is bound to buy of them. Since Sir C. Cameron's Bill was first introduced the High Court decisions have tended in favour of the dealer in this respect. In the *Laidlaw v. Wilson* case (a lard case) it was held that a warranty might be implied from a general contract and an invoice, and since then hundreds of cases have been rightly or wrongly dismissed on the production of invoices. So numerous have these dismissals been that the Act may be said to be dead as far as lard, butter, and vinegar are concerned. And under the Act as it now stands there is no machinery for prosecuting the wholesale dealer, who can only be reached most exceptionally, and as a matter of fact has only been proceeded against in very rare cases."

"But if the invoice were made a warranty would not the effect be to transfer all actions to the wholesaler?"

"I do not think so. The wholesale houses wish for this alteration as much as the retailers. They consider it would enable them to defend themselves against unfounded aspersions."

Finally we reached the Board of Reference, which the analysts appear to regard as their principal *cheval de bataille*, and which, they believe, would obviate the immense amount of friction existing between them and Somerset House, and would unify the working of the Act over the whole country. This body, as we stated last week, they propose should be composed of the Principal of the Somerset House Laboratory, a person appointed by the General Medical Council, three analysts appointed by the Local Government Board, and a person nominated by the Board of Agriculture. The duties of this Board have been already indicated. Briefly, the settlement of standards and recognised methods of analysis, and the consideration of difficulties generally, would be committed to them.

"It is suggested by some," Mr. Hehner remarked, "that the various trades should be represented on this Board. This is Mr. Bannister's idea. But that would make it a trade council, and not a scientific council. Every trade could not possibly be represented on such a council, and if one were, the others would have a right to complain. The council would have to deal with scientific matters mainly, of which traders could know nothing whatever. The idea is that our Board would seek from those specially conversant with the commerce in any article all the information and advice they could get."

"But do you not think that pharmacists have a right to expect that somebody on that council would be specially qualified to judge about drugs?"

"But that is specially provided for by the appointment of a person nominated by the Medical Council."

"But they would appoint a medical man."

"I should think not. I should think they would select the most competent pharmaceutical authority they could find; that at least was the intention of the Council of the Society of Public Analysts."

"Why not give the appointment to the Pharmaceutical Society, then, if you want a pharmacist?"

"Because the Medical Council are the legal Pharmacopœia authorities, and it is supposed that they would appoint a person who would be specially qualified to interpret that

standard. I have no objection to Mr. Umney's two pharmacists, nor to ten if they can assist the objects of the Board. This is an opportunity," Mr. Hehner added, in concluding the interview, "for a fresh start. There have been mistakes, no doubt, and misunderstandings and friction. There is room, of course, on many points for a legitimate difference of opinion. But we can, if we will, now agree to an Act under which the trades, the analysts, Somerset House, and everybody can work together to the advantage of all."

Personalities.

THE Queen has conferred the honour of a baronetcy on Dr. John Williams.

MR HULKE, F.R.S., has been re-elected President of the Royal College of Surgeons, and Mr. Reginald Harrison and Mr. Alfred Willett, Vice-Presidents, respectively.

LORD KELVIN has been awarded the Grande Médaille of the Société d'Encouragement pour l'Industrie Nationale of Paris for his scientific works, and Professor Roberts-Austen a prize of 2,000*fr.* for his work on alloys.

MR. F. J. LLOYD, the well-known agricultural chemist, has resigned his position as gas-examiner to the London County Council at Dalston. Mr. G. N. Huntly, assistant to Professor Smith, of the Public Health Department, King's College, has been appointed in his place.

At a special meeting last week of the Royal Medical and Chirurgical Society of London, a vote of thanks was passed to his Highness the Nizam of Hyderabad, in recognition of his public spirit and generosity in promoting, at considerable expense, the elaborate series of investigations into the action of chloroform carried out at Hyderabad and elsewhere.

MISS F. M. MILLER has retired from the position of forewoman of the tabloid-room of Messrs. Barroughs, Wellcome & Co's chemical-factory at Dartford (Kent), after between nine and ten years' service, and the firm have presented her with an oak case containing seventy-six pieces of plated articles, including spoons, forks, sugar-sifters, soup-ladle, &c. The presentation was made on behalf of the firm by the manager, Mr. A. Searle, F.C.S. The female employees of the factory have presented Miss Miller with a case of cutlery, and a framed group-photograph of the subscribers as a token of appreciation.

Business Changes.

THE old-established business of Messrs. Spinks & Son, chemists, Marshmont Street, Westminster, S.W., is closed, and the fittings sold off.

MR. T. G. LOBBETT, chemist, has purchased the business, of the late Mr. Baking, trading as Squire & Co., in Edgware Road, W. (near the Marble Arch).

MESSRS. CLARKE & MILNE, from the Army and Navy Stores, have purchased the chemist's business of Mr. G. E. Norrish, at 77 Atlantic Road, S.W.

MR. THOMAS CRAGG has opened a pharmacy at 112 Wandsworth Bridge Road, S.W., which has been tastefully fitted by Mr. Philip Josephs, of 54 Old Street, London, E.C.

MESSRS. ARDEN & MINNEKIN, chemists (from Corbyn & Co., London), of the Theatre Drug-stores, Ramsgate, have purchased the business of the late Mr. Fisher, chemist, High Street, Ramsgate.

MR. PHILLIPS SPENCER, wholesale druggist, 35 and 37 Low Friar Street, Newcastle-on-Tyne, has retired, and has transferred his business to his late manager, Mr. J. J. Dakers, who is now carrying it on under the style of Phillips Spencer, Dakers & Co.

Society of Chemical Industry.

ANNUAL MEETING IN EDINBURGH.

"The best-laid plans o' mice and men
Gang aft agley."

So it happened in Edinburgh this week with the members of the Society of Chemical Industry. They were to be honoured peculiarly by the rulers of the city, but they had not reckoned with her Majesty at Windsor, who had called thither Dr. James A. Russell, the popular Lord Provost, and while he should or would have been receiving the members in his pleasant gardens at Granton he was bending knee to the Queen in token of his knighthood. Sir James was something more to this meeting than a civic chief. An influential local reception committee has been at work for months planning how to entertain chemic Celt and Sas-enach, and of this committee Sir James was convener. From what I know of these meetings (writes our reporter in Edinburgh) I am inclined to regard Sir James's absence as we regard that of Hamlet from the play. An S.C.I. annual meeting is composed of two hours' speechifying and three days' picnicing. I suppose that is the reason why I have been deputed to report this one. So many demands are now made upon *C. & D.* space that it would embarrass the editor if a fellow were to gloat over technical statistics and Tyerian speeches when he should be taking his fill of garden-parties, oilworks, and smoking-concerts. I am safe to say nothing about the picnicing, which has already been mentioned in *THE CHEMIST AND DRUGGIST* of June 30, and as little as I can about the speechifying.

The meeting was timed to begin in Queen Street Hall at 10 o'clock on Wednesday morning; but for a large section of the members the proceedings commenced at King's Cross on Tuesday afternoon at 2.20, when they embarked on the Scotch dining-car express. As the train glided out of the station, luncheon was served, and when the cloths were removed (the goblets remaining), card, ethylic, and nicotian parties were formed, the discussion being maintained with vigour as far as York. Here cloths were again spread, and the "toot" of the North-Eastern whistle was the signal for soup, which, with its supplements, occupied the time for an hour. As the train neared Newcastle, and the occupants saw and smelt the evidence of chemical industry, it was surprising how vigorously the subject of discussion was attacked. And they kept it up far past Berwick, until the horrible thought dawned upon some one that Forbes MacKenzie would move the adjournment at Edinburgh. But it was not to be. After light supper in the Waterloo and other hotels, the discussion was resumed in the smoking-rooms. The parties came up to Queen Street Hall, on Wednesday morning, smiling, bowing, and shaking hands as if nothing had happened—as if they had not forestalled Mr. E. C. C. Stanford, the President of the year, in inaugurating the proceedings. By some strange fatality the idea had got abroad that 11 o'clock was the hour of meeting, so when the president came in at 10, there were less than a hundred members in the hall. Mr. Stanford was accompanied to the platform by Bailie Dunlop, Dr. John Murray, of the *Challenger* staff; Professors Crum Brown and Thorpe; Dr. Stevenson Macadam; Messrs. David Howard, Irvine, Horace Brown, Tyrer, and Dreyfus. There were few local pharmacists present. Mr. Laidlaw Ewing represented the North British Branch. The others whom I noticed were Mr. George Coull, B.Sc., of Raimes, Clark & Co., and Mr. Claude F. Henry. The examinations are on in Edinburgh this week, and account for the absence of some members. Bailie Dunlop played Sir James Russell's part, and welcomed the Society to the city. Mr. Stanford, responding, paid a compliment to the Lord Provost's worth, as a man and a knight; and this over, the business of the day began. It may simplify and shorten matters to quote here the

ORDER OF BUSINESS.

1. The General Secretary will read the minutes of the general meeting of the Society held in Liverpool on July 12, 1893.

2. Scrutators will be appointed, and the ballot, to fill vacancies on the Council, will be closed.

3. The General Secretary will read the report of the Council, and will lay the Treasurer's report before the meeting.

4. Mr. T. Tyrer will move, and Mr. Dreyfus will second, the adoption of those alterations in the by-laws of which notice has been given in the April issue of the Society's *Journal*.

5. Mr. E. C. C. Stanford, the President of the Society, will deliver an address.

6. Professor Thorpe, the President-elect, will propose, and Mr. Horace T. Brown will second, the adoption of a vote of thanks to Mr. Stanford.

7. The scrutators will report the result of the ballot for the members of Council.

8. Appointment of auditors.

9. Professor Crum Brown will propose the appointment of Mr. E. Rider Cook as the Society's representative on the Board of the Imperial Institute. Mr. Robert Irvine, Chairman of the Scottish Section, will second the appointment.

10. Professor Smithells will invite the Society to hold the annual meeting for 1895 in Leeds. Mr. T. Fairley will support the invitation.

This order was adhered to with one variation. It appears from the

COUNCIL REPORT.

that the Society has had a prosperous year. The membership has increased from 2,784 in 1893 to 2,810. Seventy-seven original papers have been published, being an increase of three, and the excess of revenue over expenditure was 574*l.* The work of the past session was also dealt with in the report, and considerable applause greeted the intimation that a section of the Society has been formed in New York, with Mr. A. H. Mason as chairman. On the motion of Mr. Fletcher, Chief Alkali Inspector, this report was adopted. Mr. Cresswell also submitted the

TREASURER'S REPORT.

The total income of the year was 4,270*l.*, of which 3,200*l.* came from subscriptions, 180*l.* was interest, and the *Journal* yielded 869*l.* The *Journal* cost 2,700*l.*, sectional expenses 233*l.* Secretary's salary 300*l.*, office expenses 121*l.*, the last annual meeting 150*l.*, the Treasurer's assistant 52*l.*, and other items brought up the sum to within 574*l.* of the receipts. In moving the adoption of this report, Mr. David Howard spoke kindly regarding Mr. E. Rider Cook's services as Hon. Treasurer. The adoption of the

ALTERATIONS IN THE BY-LAWS

was like to be a short affair, because there were distributed throughout the meeting printed slips of the alterations, and when Mr. Tyrer was called upon he made the shortest speech of his eloquent life. "My duty is," said he, "to move the adoption of the alterations of the by-laws as made by the Council, and I do so." This was seconded, and after a momentary pause, Mr. Buckley, on behalf of young men, protested against the guinea entrance-fee, and with sweet simplicity called for an explanation from Mr. Tyrer. This he got, and Mr. W. Thorp also justified the new fee. Whereupon the criticism on this part subsided. The President was about to put the motion to the meeting when Mr. Beilby rose to protest against the following new rule:—

All communications between local sections and public bodies or societies shall be conducted through or be at the discretion of the Council; and no publication shall be issued by any section to the general public without the previous consent of the Council.

It is no secret that this has been formulated because of the action of the Scotch Section in regard to the flash-point of mineral burning-oil. Mr. Beilby could not see the necessity for the rule, but Mr. David Howard replied that it was made to ensure uniformity of action in the Society. Mr. Tyrer

followed on the same line, and Dr. Stevenson Macadam supported Mr. Bellby. There was a little more speaking for and against, and finally a vote was taken, when 12 went for the amendment and about double that number against it. The whole of the alterations were then put to the meeting, and agreed to. The scrutators now reported that 46 voting-papers had been sent in, and the voting was unanimous, the following being the

NEW MEMBERS OF COUNCIL.

President.—Professor T. E. Thorpe, F.R.S., head of Government laboratory, Somerset House, London.

Vice-Presidents.—John Calderwood, managing director of Price's Patent Candle Company (Limited), London; Charles Dreyfus, aniline-manufacturer, Manchester; Dr. A. Dupré, F.R.S., chemical adviser to the Home Office, London; E. C. C. Stanford, chemical-manufacturer, Glasgow; Professor W. A. Tilden, F.R.S., professor of chemistry at the Royal College of Science, London.

Ordinary Members of Council.—C. A. Fawsitt, indiarubber-manufacturer, Glasgow; David Howard, chemical-manufacturer, London; Professor A. K. Huntington, professor of metallurgy at King's College, London; C. N. Stoker, chemist in the Government laboratory, London; William Thorp, B.Sc., colour-manufacturer (Lewis Berger & Co., Limited), London; Frank Wilson, brewer (Combe, Delafield & Co.), London.

Honorary Treasurer.—E. Rider Cook, soap-manufacturer, London.

Honorary Foreign Secretary.—Ludwig Mond, F.R.S., chemical-manufacturer, Northwich.

I must confess that up to this point, and in spite of the little Scotch fence in regard to the by-laws, the meeting was deadly dull, indeed, almost funereal. But Mr. Stanford now had his innings, and he made the hall echo with laughter, as with pun, quip, and epigram, he rattled through his

PRESIDENTIAL ADDRESS.

It was not an ambitious attempt, unless I may rank as that Mr. Stanford's endeavour to put the members in good humour. The first part dealt largely with the Society and the present position of technical chemistry in this country. While admitting that we are making progress in

TECHNICAL EDUCATION.

he stated that we are behind in organic chemistry—a remark which had the full sympathy of the meeting, for there was a round of applause when Zürich was mentioned. That little town, in a small and poor country, has done more than we rich Britons have done. The Glasgow Technical College is hampered for want of funds; London, the largest and richest city in the world, has no teaching university; and these facts indicate that we must put our national hands in our national pockets if we are to rank as we should in technical education. The picture was not without its bright side, however. Mr. Stanford considered that the work of the Sections of the Society showed that technical research is in good condition with us; and here he mentioned, to the delight of the meeting, what Dr. Mond has done in founding the Davy-Faraday Research Laboratory. The position of the Society abroad gave him much satisfaction. There are 310 members in the United States and Canada, 123 on the Continent, 103 in our colonies, and 21 in Japan, and he hoped to see sections in all of them yet. When Mr. Stanford went to say that the constitution of the Society is good, for it has "Home Rule with Imperial Government" and "Peace with Honour," it seemed that the laughter would not subside; but the fact remains that the American Section was a feature of the meeting, and its formation was quite popular. Still keeping to his theme, Mr. Stanford proceeded to speak in regard to all that is now required of the technical chemist. Once upon a time the manufacturing chemist was one who knew no chemistry. Here came a good story. Mr. Stanford was walking through a factory one day with a rule-of-thumb man, and in passing a workman his conductor kicked him. "That's what I call chemistry," said the manufacturer. "This was before the days of the Alkali Act." (Laughter.) Where British manufacturers have erred has been in their devotion to rule-of-thumb methods, and in too poor appreciation of research. The Germans have not so erred, and

while we are levelling down by examination, they are continually rising to newer possibilities by the encouragement of original work. If we are to progress and make money, it must not be by small economies in coal and labour, but in large ventures in the fields of the unknown in the saving of waste. The President instanced what Weldon, Perkin, and others have done, and suggested that the Society should follow the example of Mulhaus by instituting prizes for research. He saw other possibilities for the Society, particularly the creation of a title, such as that granted by the Institute of Civil Engineers, and on similar lines—that is, to bring in students, and by a proper curriculum make them efficient chemical engineers or technical chemists. With a brief reference to other work which the Society can undertake in legal and trade matters, Mr. Stanford brought the first part of his address to an end. After a little facetious fencing the second part was taken up, and it proved to be

THE OCEAN.

which subject, said the President without a smile and without a laugh from his audience, "is such a grand solution of everything." Dr. John Murray's presence on the platform brought a reference to the work done by the *Challenger* staff and by the Granton Marine Laboratory on the chemical phenomena which may ever be studied in the sea. No one knows what the ocean does not contain. Mr. Stanford mentioned some of the things, amongst them silver, of which there is 2,000 tons; and there is evidence of gold also. Bromine is known to be present, but until to-day proof of the existence of iodine has not been made public. The President gave it by handing round a tubeful of carbon bisulphide tinted with iodine extracted from evaporated seawater. The proportion is only 1 part in 291,000,000 parts. Small though it is, it is there, and that is where the algæ get it. From this point only snatches of the address were given, such as the importance of algæ as food-products, the sea as a source of the alkalies, and the preparation of colours from iodine; all these being dealt with in as short a time as it takes to write this. One experiment was eagerly watched. This was the behaviour of iodo-mercurate of copper when heated. The salt is a red colour, which becomes quite black when heated to 120° F., and is very useful as a paint for bush-bearings or any other part of machinery which is apt to become heated. This was illustrated by pouring hot water into a can part of which was painted with the colour. This part became quite black. Finally, Mr. Stanford spoke about the properties and uses of algin, the peculiar gelatinous substance which he discovered in seaweed about a dozen years ago. He spoke altogether fifty-five minutes, and as soon as the vote of thanks was passed members began to troop out of the hall.

The other items of the programme were then disposed of without opposition, and after luncheon in the Waterloo Hotel

THE PICNICING BEGAN.

Some went by coach to Rosslyn Chapel and Dalkeith Palace; others, under Dr. Stevenson Macadam's guidance, visited paper-works—viz., Messrs. Alex. Cowan & Sons', at Valleyfield, then Messrs. James Brown & Co.'s, at Eskmills. Bailie Dunlop, Messrs. Davidson and Ross, and members of the Ladies' Committee conducted parties to places of interest in Edinburgh; and at 8.30 p.m. the Magistrates and Council of Edinburgh received the members of the Society at a reception and *conversazione* in the Museum of Science and Art, Chambers Street.

On Thursday various works were visited, and A. B. Fleming & Co. (Limited), the oil and colour manufacturers, gave a garden-party at Royston.

PAREGORIC.—Young Father: "I am amazed, my dear, to hear you intend to give baby paregoric. Don't you know paregoric is opium, and opium stunts the growth, enfeebles the constitution, weakens the brain, destroys the nerves, and produces rickets, marasmus, consumption, insanity, and death?" Young Mother: "Horrors! I never heard a word about that. I won't give the little ducky darling a drop—no, indeed. But something must be done to stop his crying. You carry him awhile!" Father (after an hour's steady stamping with the squalling infant): "Where in thunder is that paregoric?"

New Companies and Company News.

WEST KENSINGTON DRUG-STORES (LIMITED).—Capital 3,500*l.*, in 1*l.* shares. Objects: To acquire the business now carried on at 1 Baron's Court Road, West Kensington, and to carry on business as drug-store keepers, chemists, druggists, photographers, &c. The first subscribers (who take one share each) are:—C. Greenwood, Argyll House, West Kensington, gentleman; W. H. Rayner, 23 Turneville Road, West Kensington, clerk; A. Rickards, 3 Mitre Court, Temple, E.C., gentleman; J. Brown, 9 Oberstein Road, S.W., gentleman; C. E. Hawkins, 5 Boscobel Gardens, N.W., gentleman; A. Heritage, Wellington Street, N.W., gentleman; W. C. Clarke, 9 Montefiore Place, S.W., gentleman.

J. H. READ (LIMITED).—Capital 1,000*l.*, in 1*l.* shares. Objects: To acquire the business of John Henry Read at 90 Victoria Street, Westminster, and to carry on the business of chemists, druggists, drysalts, oil and colour men, &c. The first subscribers are:—J. H. Read, 90 Victoria Street, S.W., chemist, 10 shares; H. W. Plumridge, 23 Buckingham Palace Road, one share; J. H. W. Rumsey, 11 Lupton Street, S.W., photographic chemist, 200 shares; J. H. Kingham, 30 Market Square, Aylesbury, grocer, 50 shares; Susannah S. Linnell, Aylesbury, 35 shares; J. G. Tingle, 135 Sussex Road, South Croydon, chemist, 5 shares; Elizabeth L. A. Read, 90 Victoria Street, 5 shares. Registered without articles of association. Registered office, 90 Victoria Street, Westminster, S.W.

H. B. OIL SYNDICATE (LIMITED).—Capital 20,000*l.*, in 1*l.* shares. Objects: To acquire the patent rights of Professor W. N. Hartley and Mr. W. E. B. Blenkinsop, in respect of their inventions for manufacturing pale boiled oil, decolourising and thickening vegetable oils, &c., and to work the same. The first subscribers (who take one share each) are:—W. N. Hartley, 36 Waterloo Road, Dublin, professor of chemistry; W. E. B. Blenkinsop, Garden Wharf, Church Road, Battersea, manufacturing chemist; G. Miles, 34 Leppoe Road, Clapham, S.W., engineer; R. G. Heath, 1 New Street, Warwick, solicitor; W. G. Baker, Battersea, manufacturing chemist; H. J. Faiers, 21 Worsley Road, Leytonstone, bookkeeper; and J. S. Smith, 1 Moorgate Place, E.C., solicitor.

NEW MEDICAL DEFENCE ASSOCIATION (LIMITED).—Capital 10,000*l.*, in 10*l.* shares. Objects: To advise and defend medical men practising in the United Kingdom, and being members of the company and on the Medical Register, in cases where actions or proceedings of any kind are brought or taken. The first subscribers (who take one share each) are:—W. H. Martin, 15 King Street, E.C., solicitor; J. H. Fa'rchild, 54 Steele Road, West Ham, clerk; A. E. Hosier, 11 Daubery Terrace, S.W., clerk; F. W. Ellis, 2 Cresford Road, Fulham, clerk; H. E. Tookey, 38 Trafalgar Road, S.E., clerk; R. Lienley, 121 Shenley Road, S.E., clerk; R. J. Watson, 18 Clarence Road, N.E., clerk. Registered office, 15 King Street, E.C.

BLEASDALE (LIMITED).—Capital 50,000*l.*, in 5*l.* shares. Objects: To acquire as a going concern the business of manufacturing chemists, wholesale chemists and druggists, &c., carried on by the firm of W. Bleasdale & Co., at 23 Colliergate, York. The first subscribers (who take one share each) are:—John H. Wilson, 23 West Park, Harrogate, pharmaceutical chemist; George A. Grierson, Malton Road, York, chemist; Robert Henderson, 28 Grosvenor Terrace, York; Arthur Humphreys, 77 Bishopthorpe Road, York, commercial traveller; Charles H. Collins, 11 Marlborough Grove, York, commercial traveller; John C. Sharp, Kilmory, Musselburgh, N.B., chemist; John O. Race, 18 Victoria Crescent, Eccles, Manchester, commercial traveller. The first directors are: Messrs. J. H. Wilson, J. C. Sharp, J. O. Race, A. Humphreys, and G. A. Grierson. Qualification, 500*l.*. Remuneration (other than that of managing directors), 100*l.* per annum, divisible as they may determine. Registered office, 23 Colliergate, York.

THE directors of Bovril (Limited) announce a dividend at the rate of 12 per cent. for the half-year ending June 30 last,

making, with the interim distribution, 10 per cent. for the year, 9,000*l.* being carried to reserve fund and 1,720*l.* to next year.

THE directors of W. B. Fordham & Sons (Limited) have declared an interim dividend for the first half of the current year at the rate of 7½ per cent. per annum, free of income tax, being the uniform rate of interim dividend paid since incorporation of the company.

BLEASDALE (LIMITED).—We understand that this company, which was formed to purchase and carry on the old-established business of William Bleasdale & Co., has been successfully floated and registered. It is the intention of the directors to carry on the business on co-operative principles. The bulk of the capital has been subscribed by customers and employés.

THE CHEMISTS' ASSOCIATION (LIMITED).—Owing to the unsatisfactory state of his health of late, Mr. Leonard Walters has been reluctantly compelled to resign his position as managing director of this Association. The Board has secured the services of Mr. A. B. V. Taffs (late of Gilbertson & Sons), who will in future act as manager of the London warehouse in the absence, whilst travelling, of Mr. Hole, who however will be more frequently at headquarters than hitherto.

THE LIQUOR CARNIS COMPANY (LIMITED).—In the Chancery Division on July 19, Mr. Hamilton asked Mr. Justice Kekewich, in a debenture-holder's action under which a receiver had already been appointed, to grant a power of sale, and, in default of sale, liberty to appoint a manager. The company was formed in 1890 to acquire letters patent for the manufacture of meat extracts, and raised nearly the whole of 15,000*l.* on debentures in issues of 100*l.* each. They had spent some 10,000*l.*, and their only assets were stock-in-trade valued at some 750*l.*, and the good-will, which it was hoped would prove saleable; if not, they desired that the manager should continue the operations of the company somewhat longer. The company appearing and making no objection to the application, Mr. Justice Kekewich said judgment had better be taken at once, and permission to sell embodied in it.

Trade-Marks Applied For.

ANY person who has good grounds of objection to the registration of any of the following marks should at once communicate with Sir Reader Lack, Comptroller-General, at the Patent Office, 25 Southampton Buildings, Chancery Lane, London, W.C.

(From the "Trade Marks Journal," July 11, 1894.)

"**PELLICULORUM**," and device of belt; for a veterinary preparation. By Davis & Field, Goldhawk Road, Shepherd's Bush, W. 180,276.

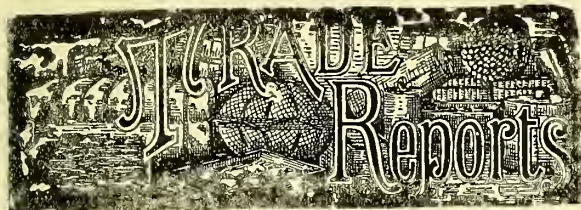
"**DAISY**"; for a chemical substance used in medicine and pharmacy. By J. R. Ellis, 26 Wortley Lane, Leeds. 178,243.

"**LOUENE**"; for hypnotics, narcotics, and sedatives for use in medicine and pharmacy. By F. H. Bowden, 43 King William Street, E.C. 178,675.

"**ACORN OINTMENT**," device of an acorn, and wording in circle; for an ointment for human use. By J. Wallis, trading as Avis & Powers, Riverdale Mills, Lewisham, S.E. 180,351.

"**KAFALOS**"; for chemical substances used in medicine and pharmacy. By J. A. Moore, Freeman Street, Grimsby. 180,586.

"**CAMWAL**," device of man sitting on well-wall, and wording; for mineral and aerated waters. By the Chemists' Aerated and Mineral-waters Association (Limited), 45 Gifford Street, London, N. 180,479.



Notice to Retail Buyers:—It should be remembered that the quotations in this section are invariably the lowest net cash prices actually paid for large quantities in bulk. In many cases allowances have to be added before ordinary prices can be ascertained. Frequently goods must be picked and sorted to suit the demands of the retail trade, causing much labour and the accumulation of rejections, not all of which are suitable even for manufacturing purposes.

It should also be recollected that for many articles the range of quality is very wide.

42 CANNON STREET, E.C., July 19.

The Liverpool Market.

Our Liverpool correspondent, writing on July 18, reports that *African ginger* has become steady at 35s. per cwt. for good sound root, though some inferior has been sold at 31s. per cwt. In *Gums*, *Soudan sorts* show signs of attracting rather more attention now that prices have again given way, the present rates offering consumers more inducement to resume their use. Current values are from 39s. to 45s. per cwt. *Canary seed* has met with somewhat less inquiry during the week, and sales have been made in quantity at 56s. per qr. The lower grades of *Chilian honey* have been more inquired for during the week, although no business has so far resulted. The reduced range of prices appears to be attracting buyers. *Castor oil* is still steady at 2½d. to 2¾d. for good seconds Calcutta. *Beeswax* has been in good demand, one parcel of fine pale *Chilian* realising 8l. 17s. 6d., other grades ranging from 7l. 10s. to 8l. 15s. per cwt. as in quality. *Quillaia bark* is steady at 10l. 15s. to 11l. 10s. per cwt. *Fenugreek seed*: Sales of brown *Egyptian* during the week at 6l. 12s. 6d. to 6l. 15s. per ton.

Indian Kino.

At the drug sales to-day, a 2½-cwt. case of kino from Bombay was offered. The drug was in very small angular pieces, mixed with numerous tears and containing much vegetable debris, chiefly pieces of bark adherent to the gum. The colour of the sample was a brilliant ruby, and the taste intensely astringent. The bright colour and intense astringency preclude its belonging to one of the varieties of *Australian Red Gum*. The sample is of a very gummy character, and is almost entirely soluble in water and partially so in spirit, forming ruby red solutions. It resembles the astringent gum lately imported from *Mashonaland* and is probably of African origin, although some of its characters might point to its being *Indian Butea Kino*.

The Amsterdam Cinchona Auctions.

Our Amsterdam correspondent telegraphs that at to-day's public sales of *Java cinchona* in Amsterdam 3,012 packages were sold, at an average unit of 4½c. (=¾d. per lb.) per ½ kilo, showing an advance of quite 10 per cent. upon the June sales, the present unit being the highest reached during the current year. Manufacturing barks, in entire and broken quills, and crushed bark realised from 4½c. to 39½c. (=¾d. to 7½d. per lb.; ditto root, from 6½c. to 34½c. (=1½d. to 6½d. per lb.); druggists' bark, in quills and broken quills, from 10c. to 51½c. (=1½d. to 9½d. per lb.). The principal buyers were the Amsterdam, Mannheim, Frankfort, Brunswick, and Auerbach factories, and Mr. Gustav Briegleb, of Amsterdam.

ACETANILID.—The commercial position of acetanilid has long been very distressed. Until recently the nominal price, according to an arrangement between the manufacturers, was 1s. 5d., but this quotation was not very closely adhered to, and it was possible to buy, according to quantity, at 1s. 4½d. or even 1s. 4d. Now, however, there is some rumour

that a stricter adherence to the higher quotation has been agreed upon, and will in future be carried out.

ACID (CITRIC).—Quietly steady, at 1s. 2¾d. to 1s. 3d. per lb. for English. Concentrated juice is quoted at 13l. 10s., f.o.b.

ACID (TARTARIC).—The English makers still quote 10¾d. to 11d. Foreign offers at 10¾d. per lb.

ALOES.—*Cape aloes*, of which 40 packages were offered to-day, is steady, and 34 boxes sold at from 22s. to 23s. 6d. for fine bright, 21s. to 21s. 6d. for medium, and from 19s. 6d. down to 17s. for ordinary drossy and soft gum. Of *Curacao aloes*, only the small quantity of 28 gourds, common and capey quality, was offered; this realised from 5s. 6d. to 8s. 6d. per cwt. *Socotrine aloes* sold at a decline of about 5s. per cwt. for good quality, 10 out of 50 casks of rather soft, but good bright gum, of fine aroma, realising only 70s. per cwt.; when these were sold a bid of 67s. 6d. for the remainder was rejected; another parcel was bought in at 75s., and hard, dark aloes in skins at 65s. to 70s. per cwt.

AMBERGRIS.—The new arrival of about 90 ounces was offered at auction to-day. The quality was mostly satisfactory, the colour being grey or dark brown and the aroma fairly good. Five ounces sold at the rate of 75s. per oz.; other parcels of old ambergris were bought in.

BALSAM (COPAIBA).—Quiet; five casks *Maranhão*, clear pale, rather thin bright balsam, were bought in at 1s. 7d. to 1s. 7½d. per lb.

BENZOIN.—*Siam gum* is rather dearer, although very little was disposed of to-day. One case fine medium to bold almonds, in block, of good bright colour, realised 14l. 5s. per cwt.; small to medium ordinary blocky pale almonds were bought in at 13l. *Sumatra gum* is quite 10s. dearer for good qualities, which are very scarce, and much wanted. Of about 175 cases shown to-day, one-third realised 8l. 10s. for good seconds bright white almondy centres, slightly false packed sides; 7l. to 7l. 10s. for ditto, but more false packed; 100s. for fair almondy centres, very false packed sides, and corners old fracture; and 97s. 6d. for dull seconds. Old *Penang gum*, 21 cases fair seconds glassy centres, false packed corners, realised 65s. per cwt.

BUCHU.—A decline of about ¼d. per lb. has taken place in this drug, some 43 bales of which were offered, 23 of these sold at 3d. for good bright round green, and 2½d. to 2¾d. for yellowish mixed; another holder requires 3¼d. for good green leaves.

CALUMBA.—Dull of sale and very low in price. Of about 240 bags, 20 sold at 10s. per cwt. for grey sorts, very barky and stalky. Nine shillings would be accepted for still commoner quality.

CAMPHOR (CRUDE).—A sale of 200 piculs China, July-August shipment, at 73s., c.i.f. terms, is reported, showing a lower market.

CANELLA ALBA.—Sixteen bales were offered to-day; for a portion of these good pale partly bold but split quill, 30s. is asked, a bid of 27s. 6d. being refused.

CANNABIS INDICA.—Practically unchanged, 3¼d. per lb. was paid to-day for 23 Robbins stalky greenish tops, and a lot of damaged and dark quality from Bombay sold at a low rate; there is a fair demand.

CARDAMOMS.—Fairly steady, but the supply was rather small to-day, viz.: about 100 boxes, two-thirds of which was bought in. Sales were made at the following prices:—*Telliecherry*, medium to bold dark to brown slightly mouldy, 1s. 7d. to 2s. *Ceylon-Mysore*, medium to bold full pale, 2s. 9d.; medium ditto, 2s. 4d. to 2s. 5d.; small to medium fairly good pale, 1s. 11d. to 2s.; very small pale to medium palish partly split, 1s. 6d. to 1s. 9d.; dull small yellow and brown, from 1s. 5d. down to 1s. 4d. per lb. *Seed*, 1s. 4d. to 1s. 6d. per lb.

CASCARILLA.—Offering rather freely, about 50 bags being sold at to-day's auctions, mostly without reserve: 38 bags sold at a decline of 2s. to 3s. per cwt; thin small pale to greenish at from 20s. up to 25s. per cwt.

CHAMOMILES.—New *French* chamomiles are just being offered; 115s. per cwt. is the quotation for flowers of fine quality. The *Belgian* crop is being harvested, but as yet no quotation is made.

CHIRETTA.—Unaltered, 7 bales partly damaged fair quality from Calcutta realising 2½*d.* The present price is a very low one.

CINCHONA.—Forty-one bales of *Guayaquil* bark, the first arrival of that variety for nearly two years, were offered at auction to-day and realised exceedingly high prices. Good to fine bright grey and mossy quill brought from 1*s.* to 1*s.* 3*d.* per lb.; long thin rusty and ordinary, partly damaged, from 9*d.* down to 5*d.* per lb. For a parcel of nine bales cultivated flat yellow *Calisaya* (damaged) 1*s.* 8*d.* per lb. is required.

COCAINE.—On Monday the price of cocaine salts was advanced by the makers as suddenly as it was reduced some time ago. In *Hydrochlorate* the rise is 9*d.* per oz., the present quotations being—for 100 oz. lots 15*s.* 3*d.* per oz., for parcels from 25 to 100 oz. 15*s.* 6*d.* per oz., and for smaller quantities 15*s.* 9*d.* per oz. These quotations are for bulk, to be taken within three months from date of order. One-ounce bottles are charged 3*d.* extra.

COCULUS INDICUS.—Almost unsaleable. About 150 bags were offered and bought in at 5*s.* 9*d.* per cwt.; 5*s.* 6*d.* would be accepted.

COLOCYNTH.—Eleven cases good *Turkish* apple had been declared for sale, but when their place in the catalogue was reached it was stated that they had been disposed of privately. We believe that they realised 1*s.* 2*d.* per lb. The drug has become quite scarce lately, and after a long period of depreciation it is now found that there is practically no available stock of it. In Cyprus 1*s.* per lb. f.o.b. is asked, which is equivalent to at least 1*s.* 2*d.* per lb., London terms. Holders here are confident that before long they will be able to obtain 1*s.* 6*d.* per lb.

CUBEBS.—The market is very well supplied, but owners are rather firmer in their views, and at auction a slight advance—about 2*s.* 6*d.* per cwt., was paid for 45 packages fair brown berries, with little stalk, which realised 42*s.* 6*d.* per cwt. for sound, and 39*s.* for damaged. Nine cases good blue-brown berries from Bombay realised 60*s.*; 38 packages dust and stalks, 2*s.* per cwt. The last-named parcel was sold “without reserve” and subject to paying charges.

CUSCUS.—A 6-bale parcel of cuscus-root from Calcutta sold at 12*s.* 6*d.* per cwt. to-day. A 100-bale lot from Bombay (the drug is pretty plentiful now) was bought in at 15*s.* per cwt.

DRAGONSBLOOD.—Gum in *reed* has been exceedingly scarce for a long time, and the small lot offered to-day therefore evoked vigorous competition. The quality was not extra-good, but the pieces were mostly whole, well-wrapped up, and showed a good colour. This lot brought the extraordinarily high figure of 11*l.* 7*s.* 6*d.* per cwt., quite 50 per cent. above the nominal rate. Three cases fair *Socotrine* drop realised 42*s.* 6*d.*; and six packages palish soft seedy *Singapore* lump (for which 6*l.* 12*s.* 6*d.* was refused) were bought in at 7*l.* per cwt.

ERGOT OF RYE.—Quite neglected, and apparently without hope of improvement until the arrival of the new crop. Fifteen packages *Spanish* ergot, old and wormy, were bought in at 11*d.* to 1*s.* per lb. to-day.

GALLS.—*Turkish* galls are easier. Good blue *Smyrna* have been sold at 56*s.* per cwt. on the spot. In white galls, which generally follow the position of Chinese galls pretty closely, no business has been done.

GAMBOGE. which continues to be in plentiful supply, was again from 5*s.* to 10*s.* per cwt. lower to-day. Of 66 packages 28 sold as follows:—Fair, mostly orange fracture, broken pipe, 10*l.* 5*s.*; fair blocky, partly reddish, icy fracture, 9*l.* 7*s.* 6*d.*; lump and broken pipe, rather dull, partly icky in fracture, from 8*l.* 15*s.* to 9*l.* per cwt. (mostly subject to approval); ordinary pickings, 8*l.*; bold, heavy brown lump, with very little colour, 7*l.* 7*s.* 6*d.* per cwt. For an exceptionally fine lot of bold pipe of good fracture 11*l.* per cwt. would, perhaps, be accepted.

GENTIAN-ROOT.—Quiet at the low price of 14*s.* per cwt., at which 13 packages good quality, from Bordeaux, were sold to-day.

GUAIACUM.—A small parcel of 8 cases was well competed for at to-day's auctions, and realised an advance of 6*d.*

per lb. upon the last nominal rates—namely, 25*s.* per lb. for good gummy block, and from 9½*d.* to 1*s.* per lb. for small drop very woody and drossy mixed.

GUM ACACIA.—*Australian* red gum is at present obtainable at very low rates. Good bold frosted drop was bought in to-day at 23*s.*, dark mixed glassy at 21*s.* per cwt. *Soudan* sorts are in fair supply, but no sales were effected at the auctions, bids of 40*s.* to 41*s.* per cwt. being refused for fair glassy and dusty, slightly amber and mixed sorts. Seventeen bags dusty palish *Cape* gum were bought in at 40*s.* per cwt.

GUM AMMONIACUM.—Several lots sold to-day at a decline of about 5*s.* per cwt. upon the last nominal rates, a parcel of 23 packages, newly imported from Bombay, realising 37*s.* per cwt. for fair, small to bold, detached yellow drop, partly seedy, blocky, and dusty mixed, 27*s.* 6*d.* to 31*s.* for fair almondly block, dirty and drossy mixed, and 22*s.* 6*d.* to 27*s.* for ordinary dark seedy block; a parcel of fair sorts, rather dark, was bought in at 45*s.* per cwt.

GUM CHICLE.—Five bags of this article, which is very little used in this country, were bought in to-day; about 1*s.* 6*d.* per lb., we believe, is wanted for them.

GUM ELEMI.—Very scarce. Fine white Manilla would probably realise a high price. A 41-case parcel was to have been offered to-day, but it was not landed in time.

GUM KINO.—Two cases have just arrived from India. The market is very bare, and a fancy price continues to be quoted for genuine gum. The 2½-cwt. case from Bombay, to which we refer in one of our headings, sold to-day at 92*s.* 6*d.* per cwt., after a short competition beginning at 82*s.* 6*d.* per cwt.

HONEY.—New *Jamaica* continues to arrive, and it appears that the crop this year has been unusually large, as well as of good quality. There was no change in the price to-day. About 120 bags were offered, of which one-half sold at 28*s.* to 28*s.* 6*d.* for good liquid amber, packed in ½-cwt. tins; 2 in a case (an innovation in the packing of *Jamaica* honey); 23*s.* to 24*s.* for thick grey and brownish; and from 19*s.* up to 24*s.* 6*d.* for dark to amber liquid. Eighteen cases, each of 2 30-lb. tins, candied and dull *Australian* honey, from Sydney, sold, subject to approval, at 17*s.* per cwt.

INSECT-FLOWERS.—A small business is taking place in *Maltrian* flowers. The market position is dull, and the stock in Trieste is reported on the increase. The following are the current quotations:—Closed flowers 110*s.*, half-closed 78*s.*, open 53*s.* 6*d.* per cwt., all “c.i.f.” terms.

IPECACUANHA.—There have been further arrivals of *Brazilian* root this week. Seventy-eight bales of this variety were offered to-day, of which 29 sold, common grades being rather easier, good root firmly held. The following prices were realised:—Sound, good annulated 4*s.* 9*d.*, ordinary wiry 3*s.* 3*d.* to 3*s.* 6*d.*, damaged dull to good bold annulated 3*s.* 3*d.* to 4*s.* 3*d.* per lb. The *Colombian* root was all bought in; for good plump but damaged 4*s.* per lb. is asked.

JALAP.—Unaltered; only 3 bags fair brownish quality slightly damaged, sold at 11*d.* per lb. to-day.

KOLA.—Twenty-five bags African kola sold at 9*d.* per lb. for good brown, and at 7*d.* to 7½*d.* per lb. for mouldy.

LIME-JUICE.—A small parcel of lime-juice from *New Zealand* was offered to-day and bought in at 1*s.* 4*d.* per gallon for crude, the same price at which 13 puncheons *Jamaica* lime-juice were taken out of the market.

MANACA-ROOT.—In New York it is said that from 4*s.* to 5*s.* per lb. is asked for this drug at present. At auction to-day, however, 4 bags were bought in at 1*s.* 6*d.* per lb.

MASTICH.—Two cases rather dull coloured drop sold at 1*s.* 8*d.* per lb.; another parcel of 7 cases was bought in at 1*s.* 10*d.* to 2*s.* 2*d.* per lb. for yellow to palish.

MUSK.—First-pile *Tonguin* pods sold at a decline of 1*s.* to 2*s.* per oz. to-day, 68*s.* per oz. (subject to approval) being accepted for 3 tins small to bold, fine blue and brown thin-skin and underskin, well trimmed. For another lot, not so good, 62*s.* 6*d.* per oz. was refused. No third-pile pods were sold.

MYRRH.—Ordinary dark sorts realised 72*s.* 6*d.* per cwt. to-day, but there is not much demand.

NUX VOMICA.—Neglected. About 150 bags were bought in, a bid of 4s. 6d. being refused for small rather darkish Madras.

OIL (CASTOR).—About a farthing cheaper; 102 packages pale first Calcutta selling without reserve at 2½d. to 2¾d. per lb.

OIL (COD-LIVER).—Without alteration; there are no longer any weak holders.

OILS (ESSENTIAL).—Oil of *Star anise* is still quoted at 6s. 8d. per lb. on the spot, but for delivery higher rates are current. We hear 6s. per lb., c.i.f., mentioned for October-November; and 5s. 9d., c.i.f., for distant shipment. *Cassia* oil offers a little cheaper, at 2s. 8d. per lb. for prompt shipment. *Cajuput* oil was bought in to-day at from 2s. 6d. to 2s. 9d. per bottle. *Peppermint* oil unchanged, HGH at 12s. 6d. per lb. Cocking's Japanese oil was bought in to-day at 10s. 6d. per lb.; and for 9 cases of another brand 10s. 3d. per lb. was mentioned as the price; while for 40-per-cent. oil 11s. 3d. per lb. was quoted. We are informed that for arrival (August-October shipment) 7s. 6d. per lb., c.i.f., is quoted, which marks a reduced figure. Two cases white *Nutmeg* oil (*via* U.S.A.) sold at 2½d. per lb. subject. For American *Cedarwood* oil 11½d. per lb. is asked. Eleven cases "Cinnamon oil" sold "without reserve" at from 3d. to 5d. per oz.

OPIUM.—The London market remains dull, and there is no alteration in the nominal price of Turkish opium. There has been some slight inquiry for Persian opium for export, the market in China being better for that variety; the price however, remains from 9s. to 11s. per lb. according to quality. A Smyrna correspondent, writing on July 14, observes:—Business here has been insignificant this week, but prices have been kept up by speculators, who have paid the parity of 8s. 3d. per lb. for seven cases new talequale, after which dealers, who purchased for *bona-fide* consumption, were compelled to pay the same price for this quality, and 9s. 4d. for fine select Yerli opium. It is to be expected that as soon as the new opium begins to accumulate at the shipping ports, prices will give way, especially if the American consumers should hold off for a short time. Up to the present 330 cases of new opium have been received in Smyrna, against 50 cases at the corresponding date of 1893. Our Constantinople correspondent writes under date of July 9:—The new crop is coming in rapidly, much earlier than last year, which accounts for the proportionately heavy arrivals. Speculators are still tampering with the article, and in this way keeping up prices; 7s. 8d. f.o.b. was paid last Saturday for new stuff. The Salonica crop has yielded 1,300 cases (of 50 okes = 141 lbs.). The weather, during the collection, has everywhere been exceptionally favourable.

ORANGE-PEEL.—Steady with small sales at 7d. per lb. for fair bright gelatine.

ORRIS.—Of *Mogador* orris 10 bags small to bold, rather lean shrivelled, were offered, but there was no bid, and the parcel was bought in at 45s. per cwt. Ten bags *Florentine* fair white to yellowish were bought in at 75s. per cwt.

PATCHOULY-LEAVES.—Four bales of common quality small shrivelled leaves, without aroma, sold without reserve at 1¾d. per lb.

PERMANGANATE OF POTASH.—We hear that although the convention still holds intact, one maker is becoming somewhat restive, and threatens to undersell his colleagues.

QUASSIA.—About from 15s. to 20s. lower. Twenty-three tons of *Logs* sold to-day, mostly without reserve, at from 3l. 17s. 6d. for new to 4l. 7s. 6d. per ton for good dry. *Chips* were bought in at 12l. per ton nominally.

QUICKSILVER.—A large business was done by the chief importers on Monday slightly below 6l. per bottle, and the price was then again raised to 6l., at which it remains. Second-hand holders still quote 5l. 18s. 6d.

QUINCE-SEED.—The new South African quince-seed will shortly be coming in. At auction 7 bags of good quality sold at 8½d. per lb., which is rather below the prices recently paid; another lot was bought in at 1s. 4d. per lb.

QUININE.—The stock of quinine in London on the first of the month was 193,722 lbs., or 2,198 lbs. less than at the end of May. No quinine was landed during the month of June. The demand this week has shown a very considerable improvement; about 100,000 oz. having been sold, all second-hand German bulk, at from 10¾d. to 11¾d. on the spot, 11½d. for August and September delivery, and 11¾d. for October delivery. The market closes firm and advancing.

RHATANIA.—Eight bales good bright lean red root were offered to-day—7d. per lb. would be accepted for them.

RHUBARB.—About 100 cases rhubarb were offered at auction to-day, and 36 sold at unchanged rates, as follows:—*High-dried*, small to medium fair coat, mostly pinky-grey fracture, flat, 10d.; medium, round, ¾ pinky, ¼ dark fracture, 8¾d. to 9d.; ordinary round ½ grey, ½ dark fracture, 6½d.; medium to bold fair coat, rather dark fracture, 5½d. per lb. *Canton*, small round fair coat, even pinky-grey fracture, 1s.; medium ditto, 10d.; bold flat, good coat, ¾ pinky fracture, slightly wormy, 11d.; fair coat, dull bricky fracture, slightly wormy, round, 10½d. per lb. *Shensi*, small to medium, fair coat, ¾ pinky, spongy, ¼ dark fracture, round, 1s. 9d.; bold, round dull rough coat, ¾ pinky fracture, 1s. 2d.; medium round, 11d.; small to medium round, dull coat, 8¾d.; medium to bold round, bricky dull coat and fracture, 7d. per lb.

ROSE-LEAVES.—The new crop of French leaves is now being offered at 1s. to 1s. 1d. per lb., c.i.f. terms.

SARSAPARILLA.—*Mexican* root is said to be scarce and selling privately at 6½d. per lb. That figure could not be obtained for 10 bales at auction to-day. *Grey Jamaica* steady, 40 bales selling at 1s. 4d. to 1s. 5d. for sound, and 1s. 3d. to 1s. 4d. for damages. Damaged *Native Jamaica* sold at 7d., fair *Lima Jamaica* in bundles at 11½d., *Honduras* (Crown F.G.) at 1s. 3d. per lb.

SENNA.—*Tinnevely* leaves are in small supply and no sales of any consequence were made to-day. *Alexandrian* senna pods however showed an enormous advance, one case of good pale quality realising 1s. 1d. per lb. We are informed, however, that since then small sales have been made at 9d. per lb. Early in the month holders were glad to accept 5d. per lb., but it has since been found that there is little or no stock left, and on account of the low values nothing has been sent over lately.

STAR-ANISE.—Advices from China, dated June 7, report that the new crop of star-anise is expected to be very large, and that it is thought that low prices will rule. About 500 piculs of old seed remain in stock; they are held for 33l. per picul. A forced sale of 10 cases fair *China* at to-day's auctions resulted in a decline of 10s. per cwt.; 52s. 6d. per cwt. was the price realised.

SUGAR OF MILK.—The price of good Continental brands is about 50s. per cwt. A lot of 5 barrels powdered American was bought in to-day at 55s., a bid of 25s. per cwt. receiving no attention.

TAMARINDS.—For 25 casks *East Indian* 10s. per cwt. was accepted.

TONCA BEANS.—Three cases good frosted *Pará* sold to-day at 2s. per lb.

VANILLA.—The supply of 323 tirs at auction was fairly well competed for, two-thirds selling at an advance of 1s. per lb.—fine chocolate, 7 to 7½ inches, 17s. to 19s. 6d.; 6½ to 7 inches, 12s. 6d. to 14s. 6d.; good crystallised, 5½ to 6½ inches, 12s. to 14s. 6d.; smaller sizes, from 7s. to 12s. 6d.; ordinary small and foxy, from 6s. 9d. down to 4s. per lb.

VERMILION.—The price for two cases Chinese Tan-Woo is 2s. per lb.

WAX (BEES).—*Jamaica* in fair supply, but only half sold at a decline of from 5s. to 7s. 6d. per cwt., fine orange and yellow to good red from 7l. 15s. to 7l. 10s. per cwt. *Australian* wax about 5s. easier, some 10 packages selling at 6l. 10s. to 6l. 15s. for fair to good mixed colours. *Madagascar* fully 5s. lower, only a small proportion being disposed of at from 6l. to 6l. 7s. 6d. for dark brownish to fair yellow; 2 casks dark orange *Mogadore* wax sold at 5l. per cwt.

WOOD-OIL.—A parcel of 39 drums from Singapore sold, subject to approval, at 2¾d. per lb. to-day.

LONDON DRUG STATISTICS.

THE following figures refer to the movement of some of the principal kinds of drugs at the public warehouses in the Port of London during the first six months of 1894 and 1893:—

Article	Stocks		Imported		Delivered	
	1894	1893	1894	1893	1894	1893
Aloes.....cs, &c.	4,797	4,741	1,006	855	2,435	1,957
".....gourds	2,903	695	113	198	460	304
Anise, star.....cs	535	655	—	691	77	265
Arrowroot.....brls	12,694	9,737	13,401	12,436	8,196	7,981
".....bxs & tins	1,895	1,521	2,511	1,671	1,539	584
Balsams.....cs, &c.	1,410	1,330	483	502	971	526
Borax.....pkgs	376	5	376	20	5	276
Calumba.....bgs	1,556	1,023	501	1,385	937	862
Campbor.....pkgs	4,903	3,443	7,075	6,115	7,055	5,399
Cardamoms.....cs, &c.	1,321	744	2,191	1,397	1,349	1,198
Cinchona bark:—						
S. American.....cs	46	67	—	16	6	5
".....bls, &c.	19,633	21,655	3,537	3,851	6,217	5,144
E.I. Ceylon,.....cs	134	156	90	57	60	44
and Java.....bls	13,728	16,113	11,351	20,645	12,164	20,270
Coccol.....bgs	503	435	125	—	180	252
Cream of tartar.....cks	—	10	20	2	46	3
Cubeb.....bgs	270	257	293	308	293	370
Dragon's Blood.....cs	122	133	163	113	133	98
Galls, China, &c.....cs	1,606	2,167	2,152	2,479	984	937
Trky & Prsn.....sks	4,345	3,171	3,133	2,726	1,382	1,792
Gums—						
Ammoniac.....pkgs	63	118	73	4	98	32
Animi & Copal.....pkgs	9,538	11,762	9,172	10,571	9,591	8,902
Acacia.....	12,872	12,463	9,432	11,471	10,286	11,144
Asafetida.....	415	4	717	337	485	417
Benzoin.....	2,331	3,103	895	2,347	1,562	1,241
Damar.....	2,547	4,299	2,473	3,279	3,448	2,560
Galbanum.....	11	30	1	1	5	2
Gamboge.....	255	69	267	68	212	155
Guaiacum.....	159	185	25	60	53	70
Kino.....	2	7	4	9	6	4
Kovrie.....tms	2,967	990	2,354	1,425	1,655	1,375
Mastic.....pkgs	19	29	14	23	17	21
Myrr.....	362	318	406	367	264	273
Olibanum.....	5,595	4,332	7,231	7,586	4,320	3,576
Sandarac.....	1,087	809	725	556	606	693
Tragacanth.....	4,093	2,380	4,674	3,959	2,417	2,377
Ipecacuanha bls & pgs	874	633	738	932	6-8	1,010
Jalap.....bls	315	196	298	412	134	272
Lac dye.....chts	4,142	4,871	—	—	253	16
Nux Vomica.....pkgs	1,105	709	2,810	1,167	2,091	1,052
Oils—						
Castor.....cks	101	49	220	253	287	339
".....cs	2,463	1,494	2,485	1,978	1,479	2,185
Cocoa-nut.....tms	428	798	1,293	1,7-2	1,567	1,677
Olive.....cks, &c.	1,353	1,678	2,368	2,300	1,459	1,137
Palm.....tms	9	16	30	33	24	24
Rhubarb.....chts	618	836	353	566	664	707
Safflower.....bls, &c.	86	88	25	71	31	45
Sarsaparilla.....bls	303	331	526	639	635	773
Senna.....bls, &c.	2,070	2,139	583	2,540	2,445	1,937
Shellac—						
Orange.....cs	13,915	24,146	17,284	18,665	17,719	14,813
Garnet.....	5,416	6,426	6,369	7,035	4,812	4,473
Button.....	6,313	3,203	7,388	4,496	4,451	4,719
Total.....chts	20,644	33,775	31,040	30,196	26,982	24,005
Sticklac.....cs	1,191	1,659	2,028	3,484	1,525	2,015
Gambier.....tms	776	482	6,664	4,916	6,690	4,941
Cutcb.....	2,8-2	2,014	1,801	1,401	1,387	1,481
Turmeric, Beng.....	147	79	84	141	86	124
Madras, &c.....	315	270	357	392	292	285
Total.....	462	349	441	533	378	479
Wermilion chts, &c.	20	79	12	30	38	19
Wax (bees') bls & tms	1,169	484	2,329	2,308	1,942	2,761
".....cks & cs	471	1,135	1,223	1,254	1,817	1,677
" (Japan)cs, &c.	689	1,155	484	1,230	631	497

SARDINES contain 28.4 per cent. of nitrogenous matter 3 per cent. of fat, and 6 per cent. of mineral matter. The rest is water, according to a recent analysis. The fish is therefore a splendid food.

A GERMAN CHEMIST, Dr. Schottlander, has discovered a curious modification of gold which is quite soluble in water and produces carmine to violet-red solutions, according to the quantity present. The presence of only 0.00005 grain gives a distinct rose red.

THE OTTO-OF-ROSE STOCK IN BULGARIA.

OUR Bulgarian correspondent writes under date of July 10: It is now nearly ten days since the rose-harvest has ended, and everyone interested in this industry has already completed his investigations, and made his approximate estimate of the total yield of the crop. I have before me the reports of most of the leading houses engaged in the trade; some of them are very superficial, giving in round numbers only the general yield of the different rose countries, others, on the contrary, report not only the number of stills used in every village, but also the total produce of each locality. The general result is certainly better than last year's, both in quality and in quantity. In spite of the many falls of white frosts in the early part of the spring, of the excessive heat during the second half of the distillation, and the consequent short duration of the harvest, and of the reports about insect plague in certain sections of the district, it seems that the crop is at least 7 per cent. larger than last year's. Everyone admits that the crop as a whole is better. As yet I have found none to assert the contrary. Of course, there are many localities where the general yield is considerably less than last year's, but the average produce is considerably larger, giving a surplus over the total yield of last year's of at least 6,000 oz. On account of the excessively high prices of last year, many growers and jobbers failed to dispose of their otto, and many exporters, too, were left with large quantities of old stock on hand. All these parties claim that the present crop is only as large as last year's, and naturally are looking forward for the same high prices. Extremists, on the other side, affirm that the new crop is from 10 to 20 per cent. larger. The truth is that the present crop is about 70,000 oz., or 6 to 7 per cent. larger than last year's, and the indications are that the new prices may be about 10 per cent. lower. As to the old stock of otto, it is fully 17,500 oz., and, of course, these figures do not comprise the large quantities of geranium and other adulterants which have been imported into the country since January 1 for purposes of adulteration. This of itself constitutes an important item, and were we to include it in the above estimate, the total amount of available stock of pure and ordinary otto will be increased by at least 20 per cent. Regarding the price of the new otto, nothing definite can be said as yet. Thus far all is a matter of speculation. A great deal will depend upon the conduct of the native and foreign exporters and dealers, but a great deal more upon the demand of the foreign markets for this article. The present tone of the native market is very firm. In many places the growers demand higher prices; these claims are based on the fact that the rose-flowers commanded higher prices this year. The growers are further encouraged and backed by all holders of old stock, who use every means in their power to raise the extravagant hopes of the petty growers. They hope by this means to put off the fixing of the price of the new crop until they succeed in disposing of their old stock at the old prices. High as the present expectations are, I much doubt whether they will be realised even at a big discount. With so much stock on hand for sale, will the consumers be ready to place with the exporters and dealers large contracts at the old prices, or will most of them buy only from hand to mouth? The most sanguine parties here assert that the consumers and dealers abroad have nothing to do with the fixing of the price here. But though the jobbers may expect the same fat percentage of profit, and some dealers and exporters may, in accordance with their last year's policy, pay a fancy price for the new crop, the reckoning day this year will not be when the crop is bought up here, but when it will be offered for sale abroad. Three or four years ago, when the price of best otto was only 24s. and 25s. per oz., the total consumption of pure otto advanced to nearly 90,000 oz.; in 1892, when the price rose to 29s. and 30s. per oz., the consumption fell to 80,000 oz.; and last year, when the prices jumped to 33s., 39s. and 40s. per oz., the total consumption dropped to 65,000 oz. These figures in no way include the amount of geranium oil or other oils that may have passed for otto of rose. With such an available stock on hand as at present, it will be hard to make the consumers pay last year's exaggerated prices. Nowadays, consumers cannot be kept in ignorance of the state of affairs here and the actual stock on hand, and in regard to quality, they have become more exacting and particular.



Memoranda for Correspondents.

In letters for publication correspondents are requested to express their views as concisely as possible.

Correspondents should write on one side of the paper only, and devote a separate piece of paper to each subject of inquiry.

The name and address of the writer should accompany all communications with, if desired, a distinctive nom-de-plume.

Explosive Medicines.

SIR,—Lamplough's Saline is again bursting, and I think it would be well to warn such of your readers as are innocently exposing it on their counters. I had a most annoying experience of it this evening; bottles standing on counter glass case burst, sending contents in all directions, to the great consternation of several customers who were in at the time. I had a similar experience some years ago.

I am, dear Sir, yours truly,

July 11.

CHEMIST.

Dispensers in Government Service.

SIR,—With your permission I would like to say a few words on the letter in your issue of July 7, signed "J. Grimaldi," upon the above subject.

What may be the practice in the Naval Service I am unable to say, but army dispensers (compounders of medicines) are subjected to a very stiff examination in the subjects mentioned in attached list before being entrusted with the duties of dispenser of medicines. The examination is conducted, in writing and *viva voce*, by a board of three senior medical officers, and the proceedings are submitted to the Director-General Army Medical Department for approval or otherwise.

To pass a satisfactory examination in the subjects mentioned requires, I venture to say, more ability and intelligence than are usually possessed by "ordinary errand-boys" and "porters."

I am, Sir, yours truly,

W. P. G. (86/66.)

(Late compounder of medicines Medical Staff).

SUBJECTS FOR EXAMINATION FOR COMPOUNDERS OF MEDICINES.

1. *Familiarity* with the Latin names and words used in prescriptions and on the printed labels used in dispensary.
2. *Pharmacy*.—The various articles of *materia medica* and the preparations in the British Pharmacopoeia.
3. *Drugs and Pharmaceutical Remedies*.—Appearance, taste, odour.
4. *Medicines containing Active Ingredients*.—Their composition and the exact quantities of the important ingredients.
5. *Poisons*.—Names, characters, dangerous doses, antidotes, and remedial measures in case of overdose.
6. *Infusions and Decoctions*.—Preparation and preservation.
7. *Fomentations*.—Preparation and application.
8. *Extracts*.—Preservation and character when altered by age, climate, or neglect.
9. *Tinctures and Liniments*.—Strength, preparation, and composition.
10. *Lotions and Washes*.—Preparation and mode of application.
11. *Prescriptions*.—Reading, making up, labelling, and administration of remedies ordered.

P.S.—The above list is not complete, having been written down from memory; but the complete list can be seen in the "Manual of Instructions for the Medical Staff Corps."

Appointment of Examiners.

SIR,—A *propos* of your correspondent, "Delta's" remarks in your last week's issue permit me a little space to make a few comments.

Perhaps "Delta" will enumerate the qualifications necessary under existing regulations to become an examiner to the Pharmaceutical Society, apart from being a successful pharmacist, and being able to command a suffrage above the

average. It would appear possible to enter the Executive of the Society with scientific qualifications amounting to *nil*, and yet from that body examiners are elected. We have several well-qualified men in pharmacy better informed in chemistry and botany than many teachers of these subjects, says "Delta." Granted, but on the same hypothesis we have also men who are not so, and who, if inclined, may enter the list and become full-fledged examiners, of whom, as "Delta" mildly remarks, it is slightly difficult and delicate to get rid. I put it to "Delta" that if the papers set for the Major for the July examination were placed before some members of the present Boards, he would assure a pass under the ordinary standard for the third and fourth questions in *materia medica*, the fifth in chemistry and the fifth in physics. The fact is it becomes impossible for a pharmacist to be a profound reader in all these subjects. Specialising is not encouraged as it should be in these days. In the Minor any examiner may take any subject, so that although his election to a vacancy resulted from his knowledge and research in a particular subject, it by no means implies inability to examine in the other five or six. One point more—the proposed system would tell on the local coaches. As presently constituted, plenty of young men finish their apprenticeships and never open any book apart from the necessary B.P., go to one of the so-called colleges for three months, present themselves for examination at the expiry of that term, and as frequently pass as not. In the eyes of the law he is on a par with the youth who has worked the subjects for four or five years prior to presenting himself. This is a distinct anomaly, of which we should be rid, for with outside examiners, constantly abreast of the science they embrace and profess, the particular crochets out of which so much capital is presently made would become extinct.

Lastly, the days of rhubarb & turmeric are over, and it is desirable that the man who is examining an aspirant to a position and qualification similar to his own should possess some distinction in addition to those already mentioned.

I am, yours faithfully,

FREE LANCE. (87/28.)

Veterinary Chemists' Defence.

SIR,—I shall be glad to contribute 5*l.* to the defence fund if the Veterinary College again attempt to deprive the trade of the use of the adjective "veterinary." The late case was the best advertisement that they could possibly have given my veterinary department.

Yours truly,

Blandford, July 17.

R. H. GROVES.

Mr. Moulton on Condyl's Fluid.

SIR,—I was surprised to read the statement of Mr. Moulton, Q.C., reported in *C. & D.*, July 14, page 51, "that Condyl's fluid was poisonous." Surely when this article, according to Attfield, consists of manganates and permanganates of soda and potash, if these should be so impure as in open Court to be termed poisons, I think Condyl's should say what poison is put in and also should direct retailers to put a poison label on.

L. M. (90/20).

[The statement quoted is only a specimen of the careless way in which "learned counsel" get up their facts. All chemists know that Condyl's fluid is not poisonous. A careful reading of the report will show that Mr. Moulton was in difficulties with his argument, and was not assisted by Lord Esher's frequent but pertinent interruptions. This may account for his slip.—*Ed. C. & D.*]

LEGAL QUERIES.

Immediate information on pharmaco-legal matters is available in "Pharmacy and Poison Laws of the United Kingdom," Alpe's "Handy-book of Medicine-stamp Duty," and THE CHEMISTS' AND DRUGGISTS' LIBRARY.

85/67. *B. J. C.*—You do not make clear what you want. A chemist can get a licence for the sale of bottled spirits and for cigars and tobacco now if he wants it.

86/55. *Dental*.—It is not, in our opinion, an infringement of the Dentists' Act for an unregistered person to issue a circular headed "Dentistry" and illustrated with an engraving of a set of teeth. But we cannot guarantee that the Dentists' Association will not harass you in consequence, though we should hardly expect it.

141/19. *W. W. H.*—The Pharmaceutical Society can if they think fit prevent any person not on the register from using the description "analytical chemist," and they probably would exercise their power if this title were used by an unregistered person carrying on a drug-business.

86/7. *Barracks*.—You may not sell Dantzic black beer without a licence if it contain 3 per cent. of proof spirit or over. The Act 43 and 44 Vict. c. 20 defines beer as including "ale, porter, spruce-beer, black beer, and any description of or substitute for beer, which contains more than 2 per cent. proof spirit." As an act of grace the Board of Inland Revenue allow up to 3 per cent.

85/46. *R. W. K.*—A doctor's prescription cannot justify a chemist in breaking the law. You may only legally make the liniment ordered with methylated spirit if you can get the consent of the Board of Inland Revenue, and we do not think they would give it.

87/48. *Achilles*.—Belladonna-plaster is a preparation of belladonna, and as such is a poison in part 2 of the schedule.

88/4. *Villager*.—In buying a business, you should have a clear understanding what adjuncts to the business you are buying in the way of hooks, &c. It would be impossible for us to form an opinion unless we knew all that passed between you and the vendor. There is no fixed rule governing these transactions.

88/20. *Rohami*.—If your asthma-reliever comes within the description of preparations "to be burnt for fumigation or vaporisation only," and "intended to be burnt in a pan, in order that the patient may inhale the fumes," it is not liable to medicine-stamp duty. See "Alpe's Handy-hook," page 55.

88/39. *Alpha*.—We do not suppose anybody has registered, or could register, the words "pink pills" as a trademark. But there is always the risk that the proprietor of a medicine which has acquired some reputation may apply for an injunction against another person who uses a title similar to his, alleging that people have bought the rival goods in the belief that they were getting the originals. Watch the "Yorkshire Relish" case, reported last week, which brings out this risk.

83/72. *Carfax*.—In our opinion neither precipitate ointment, nor mixtures containing chloroform-water, nor lozenges containing an infinitesimal quantity of a scheduled poison, are poisons within the meaning of the Act. But what is the use of putting an infinitesimal quantity of poison into the lozenges? If there is enough to do any good the lozenges may come within the Act.

85/42. *Leg*.—Minors frequently hold shares in limited companies, and probably often vote. It is probable that, if challenged, the vote might be declared to be invalid, but we do not know of any instance of this kind. Certainly the minor's guardian cannot vote for him.

MISCELLANEOUS INQUIRIES.

79/4. *T. W. S.*—Common Solution for Repairing Cycle-tyres.—Solution of gutta-percha or indiarubber in rectified benzene.

66/10. *T. H. V. M.*—The plant is the histort (*Polygonum bistorta*). It is common in fields and meadows where there is a moist soil. It is bitter and astringent, but when cooked is said to be edible and nutritious, and to be eaten in some parts of Cumberland. The roots were formerly much used in medicine as an astringent.

84/67. *Enterprise* (Jamaica).—The mixture consists, for the most part, of broken senna-leaves, with florets apparently of *Centaurea Cyanus*, fragments of mullein (*Verbascum*), some composite florets, and other matters not determinable. The mixture agrees somewhat with a preparation known in France as "Thé purgatif des Apennins," prepared by Donato, pharmacien chimiste, 8 Rue de la Préfecture, Nice.

86/57. *G. D. Co.*—Dye to turn Dog's Hair from a light brown to a black and tan.—Moisten the hair, then brush over with a weak solution of pyrogallic acid to which a few grains of citric acid has been added. Where the black colour is wanted, brush half-an-hour afterwards with an ammoniacal solution of nitrate of silver:—

No. 1.

Ac. pyrogallie.	..	..	..	..	3ss.
Ac. citric.	..	..	..	..	gr. x.
Glycerini	..	..	..	..	3ij.
Aque	..	..	..	..	3vj.

M. et solve.

No. 2.

Argent. nit.	..	..	..	..	gr. xl.
Aq. dest.	..	..	..	..	3iv.

Dissolve and add liq. ammon. fort. until the precipitate, formed at first, is redissolved.

A slight excess of ammonia will do no harm. Cocoa-Butter, used by theatricals to remove paint from the face, we do not know.

89/63. *Agricola*.—We have an article in type on developers, which will answer your query.

72/17. *English*.—One-solution Hydrokinone Developer:—

Carbonate of soda	..	..	..	..	4½ oz.
Sulphite..	..	..	..	..	2½ oz.
Hydrokinone	..	..	..	..	150 grs.
Water	..	..	..	..	36 oz.

When new this is too strong; add $\frac{1}{8}$ water. Afterwards each time of using a certain quantity of new solution should be added. The solution is not filtered, but decanted off.

83/57. *C.*, referring to answer to his query 66/30, at page 27, July 7, as to Precipitate Formed in Making Easton's Syrup, sends a sample of result on dissolving and allowing to cool:—

Quinia	..	..	..	..	gr. xxv.
Ac. phosph. concd. (sp. gr. 1.5)	..	..	..	..	3j.
Aq. bullient...	..	..	..	..	3ij.

Solve

—the result being a semi-crystalline, intractable-looking substance. This is not to be wondered at, although freshly-prepared phosphate of quinine is readily soluble in boiling water—according to Hesse, it is only soluble 1 in 784 parts water at 10° C. Moral: In preparing the syrup by dissolving quinia as above, filter while still warm into the phosphate of iron and strychnine solution, washing the filter-paper with a little reserved warm water. We note that "C." adds a little citric acid as a preventive of change in the finished product. We have met, in other cases, with the same difficulty as our correspondent.

89/61. *Seidlitz*.—Capsicum will yield about 5 per cent. of oleoresin (capsicin), and Jamaica ginger from 6 to 8 per cent. (gingerin).

80/48. *S. B. R.*—Paste-blackening:—

Bone-black	12 oz.
Treacle	12 "
Sperm oil	8 "
Acid. sulph. fort.	8 "
Vinegar (good)	4 pints

Mix.

77/62. *F. J.*—Application for Corns.—After trying salicylic acid, argent. nit., and iodine, you might use solution of perchloride of mercury in flexile collodion:—

Hydragr. perchlor.	gr. xxx.
Ether anhydrous	3j.
Collodion. flex.	3ij.

M. et solve.

Sig.: Apply night and morning.

Foaming Liquid Dentrifrice.—Use formula, page 177, July 29, 1893; but in place of acid. carbolice, as published, use sodæ bicarb. or borax in the same proportion.

79/35. *Assistant.*—Sample of Preservative used by Butchers for meat is a saturated solution of bisulphite of lime. It is a commercial article, and easily obtainable.

78/72. *T. J. J.*—It is not surprising that the Graph-ink runs, if you add glycerine to it. Most of the "Graphs" contain glycerine. Add about one-tenth part of simple syrup to the ink, when no doubt your customer will find it suit his purpose.

82/32. *Ignoramus.*—Piperazine is not well adapted for exhibition in Pilular Form on account of its very hygroscopic nature. It can be massed by the addition of some vegetable powder, such as pulv. althææ. It would go very well with your pill. The pulv. rhei would answer in place of pulv. althææ, and the pills should be varnished and kept dry.

82/36. *A. D.*—To Remove Ink-stains from lavender-coloured cloth oxalic acid is the only safe thing to use. Try it first on a separate piece. Solution of chlorinated soda might also answer, but is rather risky.

82/43. *W. H.*—Essence of Vanilla:—

Musk	1 gr.
Carbonate of potassium	10 "
Vanilla pods	1 oz.
Boiling water	4 "
S.V.R.	12 "

Digest the musk, potash, and vanilla with the water in a covered vessel, and stand till cold. Then add the spirit, macerate for fourteen days, strain, and filter.

76/51. *H. R. B.*—Formula for Ice-creams.—See page 434, March 25, 1893.

81/32. *Pomatum.*—To Ensure Pomades and Cosmetics Keeping in Warm Climates.—Increase quantity of white wax, or add stearine or hard paraffin, according to formula used.

83/12. *A. T. D.*—Lemon-kali.—Try the following:—

Pulv. sacchi. alb.	lb. vij.
" sodæ bicarb.	3xxiv.
" acid. tart.	3xxvij.
" pot. bitart.	3ij.
Ol. limonis	5v.

M.S.A.

84/2. *Nix.*—To make cylindrical mulls without gunmetal moulds, try folding tin-foil like a glass rod, to the required size, and embed the foil in sand as a support before withdrawing the rod.

81/28. *Wine-presses.*—China-cement is made as follows:—

Isinglass	3j.
Mastich (in powder)	Div.
Water	3ij.
Glacial acetic acid	3iv.

Soak the isinglass in the water, and when all has been absorbed, add the acid previously mixed with the mastich. Heat gently till a clear solution is formed.

82/39. *Nux Vomica*—For a Toilet-cream to put up in collapsible-tubes, try the following:—

Lanoline	4 oz.
Vaseline or almond oil	4 "
Rose-water	2 "
Perfume	q.s.

Melt the fats together, and gradually incorporate the rose-water.

82/40. *An Assistant.*—The Freezing-mixture Powder consists of equal parts of sodium carbonate and nitrate of ammonia.

78/17. *Analyst*—There is no stipulated qualification for the position of public analyst. Fellowship of the Institute of Chemistry will ultimately be the best recommendation.

80/41. *Dewsburian.*—Thanks, but we meant we did not know the composition of the article.

82/73. *Equinus.*—Scour in a Carriage-horse.—Boiled rice and laudanum have been tried with effect.

Pulv. catechu	3iv.
Alum. sulph.	3j.
Cupri sulph.	3ss.
Pulv. opii	3ss.
Pulv. zingib.	3j.

M. Ft. bolus.

One ball may be given night and morning. Green food to be avoided as much as possible. Oats and beans to be used, &c. In "Veterinary Counter Practice" you will find numerous formulæ and directions for both horses and cattle.

77/11. *Guaiaecum*, for Sticky Fly-papers, has used 2 parts resin and 1 part common castor oil; it does not grip and dries quickly. The sample sent lacks tenacity, and has been spread upon too thin paper; use a thicker softer paper, and in place of the resin use 2 parts Burgundy pitch and 1 part Venice turpentine, increasing the quantity of oil if necessary. See also reply to a correspondent in issue of July 7.

86/49. *Carbolic.*—For a Carbolic Saponaceous Tooth-powder, use about $\frac{1}{2}$ per cent. This is quite sufficient to be characteristic, but still not unpleasant. An Excipient for Bland's Pills, to be made into a soft flexible paste, but containing neither Glycerine nor Water.—Vaseline or almond oil, with cocoa-butter added to bring to a suitable consistency.

84/46. *A. B.*—You will find all the particulars of the medical curriculum in our last Educational Number, September 16, 1893.

84/42. *W. S.*—There is no regular custom about taking pupils among analytical chemists. The usual course is for the youth to attend classes, and thus acquire a practical knowledge of chemistry, and then get a situation as assistant to some analytical chemist. He would get no salary probably for the first year, and not much afterwards, for there are plenty of such young men to be had.

77/69. *F. J.*—The plant sent is *Penstemon* (*H. cyanus niger*).

74/11. *Turtar*, in a stock of Black-currant Syrup, suspects the Presence of an Artificial Dye, probably an aniline one, and wishes a test for minute quantities of an aniline salt. Try it with decolorising agents—say, stain a piece of linen with the syrup, and subject it while moist to the fumes of burning sulphur, or treat it with ordinary aqueous sulphurous acid. If vegetable colour, it will be bleached. We do not countenance the fortifying of such preparations with aniline dyes; if carefully prepared from fruit in suitable condition, there is no need for anything of the sort. The reason why Meta-sulphite or anhydro-sulphite, and not Meta-bisulphite or anhydro-bisulphite, are the proper terms for, say, meta-sulphite of soda or potash will be evident if you consider the arrangement of the elements used by most authorities on chemistry, also if you take into account its method of preparation. "Watts's Dictionary" gives for the potash salt the term anhydro-sulphite, with formulæ $K_2O, 2SO_2$ or K_2SO_3, SO_2 . It is quite true that to simplify the formula, so as to give $K_2S_2O_5$, would then appear to indicate that it was the result of abstracting H_2O from two molecules of $KHSO_3$; but the reaction is hardly so simple as that, and, besides, it is the presence of the H which constitutes the difference between a sulphite and a bisulphite.

62/64. *Powder*.—The Cure for Colds in the Head, &c., appears to consist principally of finely-powdered liquorice with a small percentage of bicarbonate of soda or borax. The addition of a trace of menthol would be an improvement.

76/33. *Preservative*.—The presence of from 45 to 50 grs. of Salicylic Acid used as a Preservative in each gallon of acid-cordial, such as lime-juice, &c., could not possibly have the disagreeable effects you mention—it only shows about 6 grs. in each pint; before the customer could drink sufficient of the preparation, the excess of the natural acids in the cordial would be more likely to prove deleterious than the minute quantity of salicylic acid present. The only improvement we can suggest would be to dissolve the acid in a little rectified spirit in place of the phosphate and acetate of soda; solutions of these salts change salicylic acid into a salicylate of the base, the acid radicle being set free.

67/31. *J. H. L.*—Gaville's Extract is one of the ingredients of Russell's prescription for obesity. It is a secret preparation, and all that Russell ventures to say about it is that it is made from marshmallow. The usual plan in regard to the prescription is for those who get it to take it to a chemist's; the chemist tries his wholesale house for the extract. That failing, the customer is informed, and Russell is then applied to. The explanation then given is that the prescriber will supply the medicine at about 15s. per bottle. The prescription has given much bother to chemists for a dozen years, because customers are apt to think them very ignorant persons not to know what Gaville's extract is when Russell knows all about it.

77/45. *B. & S.*—"Oil of Man" is ol. animalis, and is still obtainable. It is also called "Dippel's oil"—the rectified oil only to be used. Internally it is antispasmodic, anodyne, and diaphoretic; externally, stimulating. Oil of Benjamin was obtained by distillation after the acid had been sublimed from gum benzoin. It was principally used in preparing imitation Russian leather. We should think rectified oil of amber, in which a small proportion of benzoin had been dissolved, would be the nearest substitute—or essential oil of camphor might be used.

76/69. *Urtica*.—Cure for Nettle-stings.—A solution of bicarbonate of soda in water with a little glycerine added is the best remedy. Perfume to suit the purse of your customer. Rubbing the hands immediately on feeling the smarting pain with the leaves of the common dock is an old-fashioned and effective remedy; country people say that nettles and the common dock are always found together, and look upon this as a special provision of Providence.

49/46. *Drysalter*.—"Mothers' Friend" without Opium—Use formula published at page 876, June 23, 1894, under heading "Infant's Preservative," substituting tincture of hyoscyamus or tincture of conium for the tr. camph. co. there given. In certain districts a brown preparation is preferred; then the following will suit:—

Potass. bromidi	3ij.
Tr. hyoscyam.	3iv.
Spt. myristicæ	3iv.
Ol. carui	3vj.
Ol. coriandri	3vj.
Theriaci	3vj. (by weight)
Aq. camph.	
Aq. menth. pip.	aa. part. equal. ad 3xx.

Dissolve bromide in part of the waters, add treacle, and dissolve; lastly, add hyoscyamus and the essential oils dissolved in spirit of nutmeg, making up to 1 pint. Dose: Under 6 months, half a teaspoonful; 12 months, a teaspoonful; and so on.

71/41. *A. A. G.*—The effectual Remedy for Bronchitis, &c., is an acid-chlorodyne preparation with glycerine, such as:—

Tr. chlorof. et morph. B.P.	3xxx.
Vin. ipecac.	3xxx.
Ac. nitric. vel phosphoric.	3xxx.
Glycerini	3ss.
Aqua ad	3j.

Sig.: Two teaspoonfuls three times a day.

79/9. *Ajax*—You will find addresses of scientific societies in the DIARY. We know of no steamers which regularly carry dispensers. See description of companies in *C. & D.*, June 10, 1893.

80/73. *D. S. T.*—In giving the results of an analysis of a sample of wine it is customary to give the percentage of alcohol as such, and also calculated as proof spirit. The figures for the ash are right—261 per cent. total, of which 79 per cent. is soluble in water, and 21 per cent. not.

81/25. *S. C. R.*—Good works on elementary chemistry and botany are Thorpe's "Metals and Non-metals," published by Collins & Co., 3s. each, and Edmonds's "Elementary Botany," published by Longmans, Green & Co., 2s. 6d.

INFORMATION SUPPLIED.

For this section we are always glad to receive from subscribers brief notes on practical subjects, recipes which have been found good in practice or which have required modification, and hints or fresh ideas on any pharmaceutical or trade matter.

A French correspondent, *Mr. Albert Edward Pratt*, of Paris, sends the two following formulæ, which he has used and found very useful. The first is a pill-varnish:—

	Parts
Balsam tolu.	3
Sandarach	10
Æther. sulphuric.	100

Dissolve.

The second is a formula for creosote pills:—

	Parts
Creosote	2
Pulv. saponis	1
„ benzoin.	1
Mix and add—	
Pulv. glycyrrh.	q.s.

These pills are small, of good consistence, do not get hard, and keep their shape.

Chlorodyne.—H. P. should use rect. spt. in place of the water. You have pointed this out previously: $\frac{1}{2}$ oz. of chloroform cannot be made to dissolve in 4 oz. of a watery menstruum. CINNAMON. (84/7.)

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TO THE MEDICAL PROFESSION AND CHEMISTS.

Owing to misapprehensions as to the amount of morphine used in the preparation of

Mrs. WINSLOW'S SOOTHING SYRUP,

we wish to state that the amount is one-eighth ($1/8$) of one grain to a fluid ounce. As there are eight teaspoonfuls to an ounce, the amount of morphine in a teaspoonful, our maximum dose, is one sixty-fourth ($1/64$) of a grain.

It will be seen that this is very much less than the quantity used in similar preparations authorised by the Pharmacopœia.

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Like Bank of England Notes, this cannot be successfully imitated.

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That means DIKE'S of course, because DIKE'S is such, is universally known as such, and can be proved to be such, not only by "undoubted English authorities," but by itself, a sample of which will be sent on request. It is the only Pepsin which is "Pepsin, pure Pepsin, and nothing but Pepsin." One Chemist will order "Pepsin" from the lowest bidder (and he finds plenty of them); he examines the price, not the Pepsin. Everyone knows what he gets. Another Chemist takes a natural pride in his selection, and seeks a Pepsin which is "Pepsin, pure Pepsin, and nothing but Pepsin." Likewise everyone knows what he gets. He gets DIKE'S, which costs him 3/1 per ounce, and which is "Pepsin, pure Pepsin, and nothing but Pepsin."

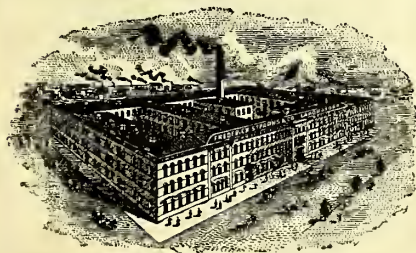
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DIKE'S PEPSIN is guaranteed to digest 3,000 times its own weight of albumen under the conditions of the U.S.P. (The B.P. exacts a strength of only 1 to 50.) One of our esteemed competitors has requested us to put the above in cold type. Here it is!

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Highly recommended in various forms of dyspepsia, having a direct action upon the mucous membrane of the stomach and intestines as a sedative. It can be administered with marked and almost instantaneous effect in their irritative form of dyspepsia, more especially when *pyrosis* is a conspicuous symptom, and pain occurs an hour or more after food. In simple neuralgic gastric pain following eating, occurring in feeble subjects, it is especially indicated, and even in *carcinoma* it has been used with great success in alleviating pain and vomiting.

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The "Colloid" Capsules.

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Citrate of Magnesia (A)...	1/6	130/-	Antipyrine, grs. v. to 3i. ...	6/- lb.
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Alterative ...	2/- Doz.	21/- Gross.	Physic, 4 drs. ...	2/- Doz.	21/- Gross.
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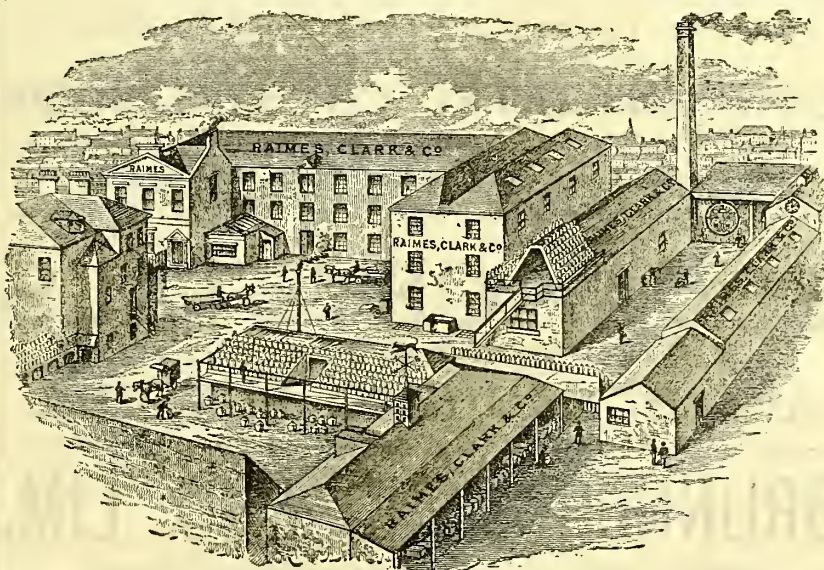
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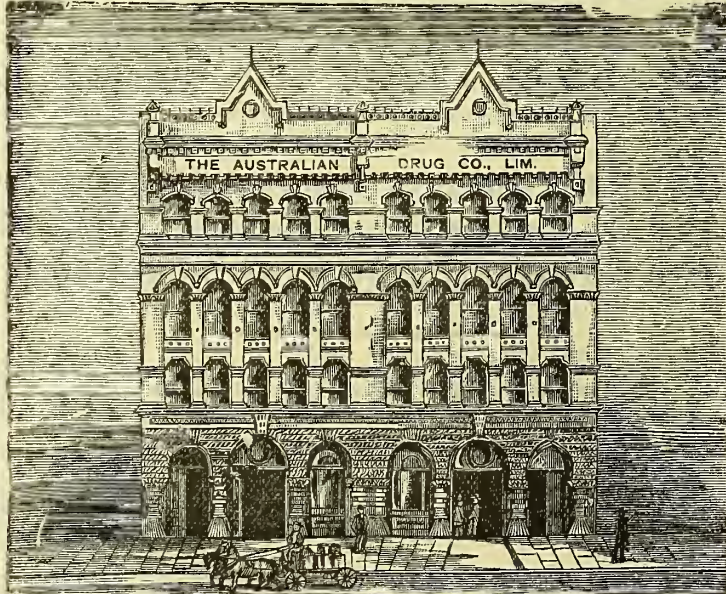
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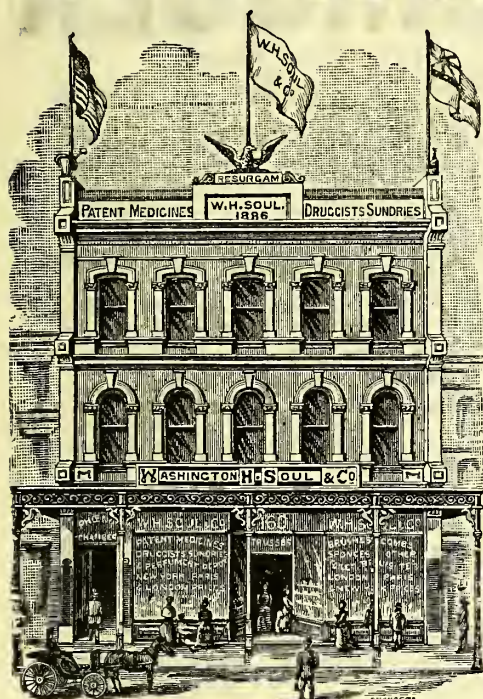
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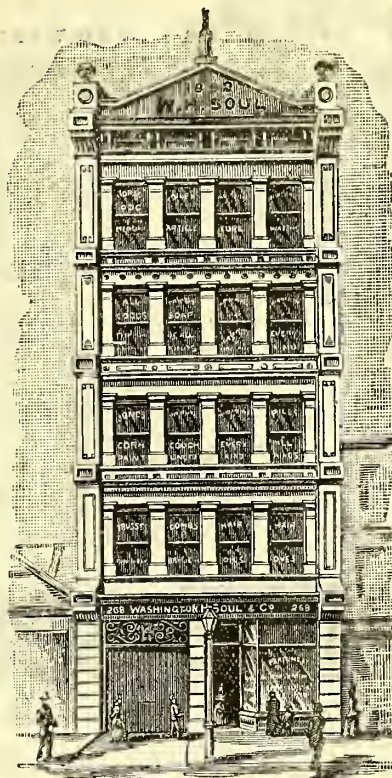
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The *SOLE* Wholesale Depot for Homocœa,

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MEDICAL and DRUG JOURNALS assign the Highest Praise for Elegance of Appearance, Absence of Injurious
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WAND'S SOLUBLE PEARL-COATED PILLS.

LOWEST PRICES CONSISTENT WITH HIGH QUALITY DRUGS.

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BEECHAM'S PILLS

**FOR ALL BILIOUS & NERVOUS DISORDERS,
INDIGESTION, & FEMALE COMPLAINTS.**

The demand is unprecedented, and Druggists will find BEECHAM'S PILLS the most Saleable
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As a Remedy for Coughs in general, Asthma, Bronchial Affections, &c., these Pills stand unrivalled.

In Boxes, 9½d., 1s. 1½d., and 2s. 9d. each.

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All Chemists, Druggists and Stores should stock this new article, which is well advertised, and is a really good
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RETAILED IN

7-lb. or 14-lb. Tins or Boxes, or in $\frac{1}{4}$ -cwt., $\frac{1}{2}$ -cwt. or cwt. Cases.



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SPRATT'S PATENT LIMITED, BERMONDSEY, LONDON, S.E.
OR YOUR WHOLESALE HOUSE.

ODAMS' SHEEP DIPS.

CATTLE WASHES, & DISINFECTANTS,
ODAMS' FERTILIZERS FOR EVERY CROP AND FOR ALL CLIMATES.

MANUFACTURED BY

ODAMS' MANURE AND CHEMICAL COMPANY, LIMITED

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Manufacturers of Fertilizers by Special



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A combination of Camphor, Eucalyptus, and Coal Tar. A Powerful Disinfectant, Deodorizer, Insect Destroyer, and Air Purifier.

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HEBDEN'S CHLORID OF LIME

IN
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Retains the Chlorine and keeps the Powder dry longer than any other packet.

4 oz., 8/- gross; 8 oz., 16/- gross 16 oz., 30/- gross.

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EDINBURGH, 1890.



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"Pineotas" Powders, Fluids, and Soaps; Carbolic Powders, Fluids, and Soaps; Crude Carbolic Acid; 95/97% Pale Carbolic Acid; 97/99% Water-white Acid; Sheep Dips and Petroleum Jelly.

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"IZAL" IS THE
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25-LB. TINS. 2 TINS IN CASE.

THE CHEMIST AND DRUGGIST says:—

"The oil is free from low-boiling terpenes, has a specific gravity of 0.9075, and has a delightful odour."



KANGAROO EUCALYPTUS OIL

Is admitted to be the Purest Eucalyptus Oil yet introduced to the public.
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ACKNOWLEDGED BY ALL WHO USE IT TO BE PURE AND FREE FROM ALL IMPURITIES.

BEWARE OF SPURIOUS IMITATIONS.

TRY IT! WHAT?

WILEY'S CHEMICAL ESSENCE FOR LAMENESS IN HORSES.

If you will, you can sell it, and it will bring you credit. You can have attractive Handbills free.

Sole Maker—F. E. ROOKLEDGE, EASINGWOLD.

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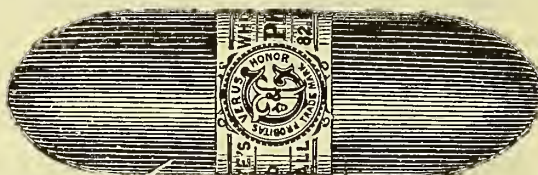
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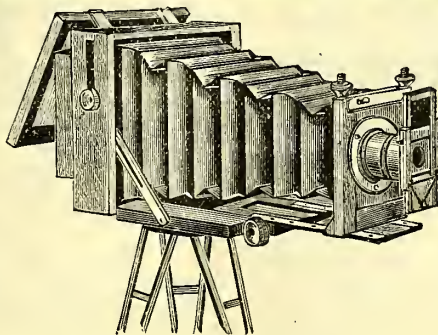
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THE "FAVORITE" SET.

Includes Polished Mahogany
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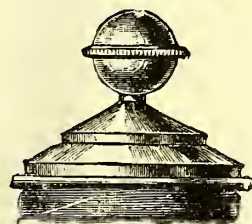
NEW PATENT AIR-TIGHT CHEMIST JAR.

A slight turn of the knob presses the indiarubber Band against the glass, and renders the vessel absolutely air-tight. The Stopper is made of pure Nickel, of handsome shape.

INVALUABLE FOR SHOW BOTTLES, CHEMISTS, CONFECTIONERS, &c.

Samples and Prices of all Chemists' Sundriesmen.

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37 CRUTCHED FRIARS, MARK LANE, E.C.



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GLASS BOTTLES

OF EVERY DESCRIPTION.

Revised Price List on Application.

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Write for Prices of any kind of Bottle required to

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A GOOD LINE FOR THE TRADE.

MEDICINE TIME INDICATOR

And POISON PREVENTIVE.

This invention is for use on Medicine Bottles, for recording the time of last dose or when the next dose should be given. It also distinguishes medicine bottles from others containing poisons or preparations not intended to be taken. It comprises a label or tablet of paper, upon which is printed a series of numbers from 1 to 12 inclusive. A pointer is arranged in connection with the label so that it might be set opposite any of the numbers to indicate the time when a dose was last taken or when it should be next given. The label is gummed to or suspended from the bottle, or it may be placed in any convenient position in the patient's room if medicine for internal use only is being administered. It enables the patient or nurse to readily distinguish the bottle, thus obviating the liability to accidents, and is valuable for family use, by nurses in hospitals, for travellers, or for general use by Doctors and Chemists.



This invention is for use on Medicine Bottles, for recording the time of last dose or when the next dose should be given. It also distinguishes medicine bottles from others containing poisons or preparations not intended to be taken. It comprises a label or tablet of paper, upon which is printed a series of numbers from 1 to 12 inclusive. A pointer is arranged in connection with the label so that it might be set opposite any of the numbers to indicate the time when a dose was last taken or when it should be next given. The label is gummed to or suspended from the bottle, or it may be placed in any convenient position in the patient's room if medicine for internal use only is being administered. It enables the patient or nurse to readily distinguish the bottle, thus obviating the liability to accidents, and is valuable for family use, by nurses in hospitals, for travellers, or for general use by Doctors and Chemists.

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GOOD AND CHEAP.

From Stocks in London or direct from the works.

THE NEW SHAPE FLATS, With rounded edges, or the ordinary kind, plain or graduated.
3 and 4 ounce 8/- per gross.
6 and 8 9/-

WHITE MOULDED PHIALS. "
1/2 oz. 1 oz. 1 1/2 oz. 2 oz.
3/6 .. 3/9 .. 4/6 .. 5/3 per gross.

PANEL BOTTLES.
2 oz. 4 oz. 6 oz. 8 oz.
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Chemists are respectfully referred to page 415 of THE CHEMISTS' AND DRUGGISTS' DIARY, 1894, where Illustrations and important Press Opinions of this saleable article are given.

The *Westminster Budget* of September 5, 1893, says:—"The 'boot drier and warmer' of Messrs. Belden is an improved boot tree, by means of which boots are not only kept in shape, but heated and dried while on the tree. The necessary heat is obtained by the insertion of a small iron, which has been previously heated, into a perforated case fixed in the hollow part of the tree. A strong sock of soft material is let into the bottom of the tree, and the warmer, lying immediately on this, will become a boon to large numbers of men and women, especially to those who are obliged to be out in all weathers."

All Sizes and Shapes kept in stock or obtained on the shortest notice.

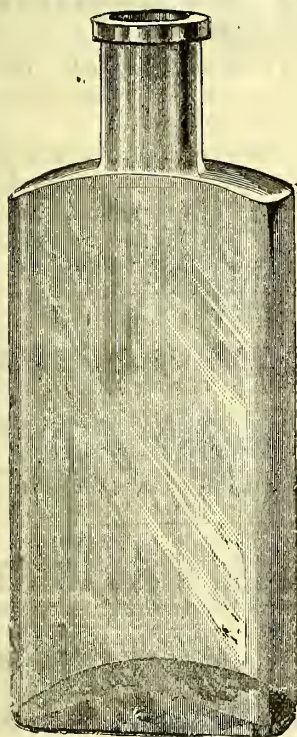
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E. & W. BELDEN, 167 GT. DOVER STREET, LONDON, S.E.
BOROUGH,
To be obtained of all Wholesale Houses. [2]

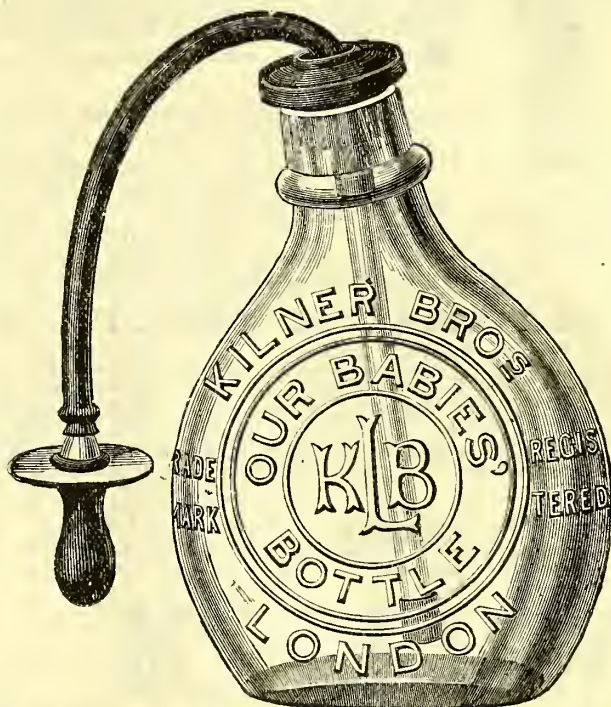
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FLAT—with Round Edges.



ALL SHAPES, SIZES, AND COLOURS.

DISPENSING BOTTLES.

**BEST QUALITY,
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GREEN FLINT.

Flats (ordinary and round edges), Ovals, Direct Squares, Rounds and Octagons (plain, graduated, and lettered),

3	4	6	8	12	16 oz.
10/-	10/-	11/6	11/6	16/6	21/6 per gross.

WHITE VIALS (Plain and Graduated),

$\frac{1}{8}$	1	$1\frac{1}{2}$	2	3	4 oz.
$\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{4}$	1	1 1/2	2 1/2 per gross.

A second quality supplied at lower prices.

SAMPLES ON APPLICATION.

SPECIAL QUOTATIONS TO LARGE BUYERS.

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No. 84-inch Rubber Tube. Small lots. 2-grs. lots.

1.—Green Bottles, Boxwood Top Corks,					
White Fittings	..	..	..	25/-	24/-
8.—Ditto, Black Fittings	..	..	..	27/6	26/6
White glass	2/6	per gross extra.			
China tops	1/6	per gross extra.			
64.—Green Bottles, Glass Screw Stoppers,					
White Fittings	30/-	29/-
66.—Ditto, Black Fittings	32/6	31/6
White Glass	3/-	per gross extra.			

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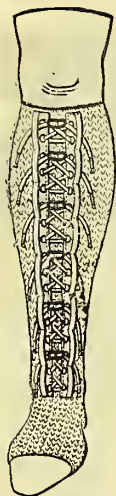
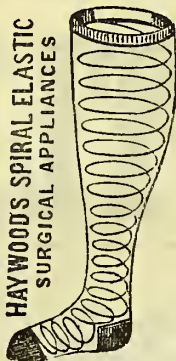
These prices include 1 doz. partitioned Wood Boxes. If Bottles are loose 1/9 per gross less.

Supplied each Bottle in Cardboard Box at 4/6 per gross extra.

Revised Price List (Illustrated), containing full particulars of above and many other kinds, sent on application to

KILNER BROTHERS,

— No. 3 GREAT NORTHERN GOODS STATION, KING'S CROSS, LONDON. —

HAYWOOD'S SPIRAL ELASTIC
SURGICAL APPLIANCES

(Seamless.) Patent.

There are no *seams* or *bindings* to irritate the limb. They are made in *healthy workshops*, and each article is thoroughly *disinfected* (by which all morbid agents are killed) and packed in Air-proof Wrappers before being sent out.

Manufactured in SILK, WOOL, THREAD, and COTTON—Fine, Medium, and Stout Qualities.
REGULARITY IN SIZE GUARANTEED.

Adjustable Stocking.
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Handbook of my Manufactures will be forwarded to any Surgical Instrument Maker or Chemist free

MAGNETIC BELTS AND APPLIANCES.

Elastic Surgical Stockings, Knee Caps, &c.
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Suspensory Bandages.
Ladies' and Gentlemen's Belts.

Hot Water Bottles and Covers, Respirators, Inhalers, Bronchitis Kettles, Throat Sprays, Waterproof Coats, Cloaks and Driving Aprons, Footballs, Shin Guards, and Athletic Appliances, Druggists' Sundries, Invalid and Nursery Appliances, &c.

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J. H. HAYWOOD, *Surgical, Electrical, Athletic, and Veterinary Appliance Manufacturer.* CASTLE GATE, NOTTINGHAM

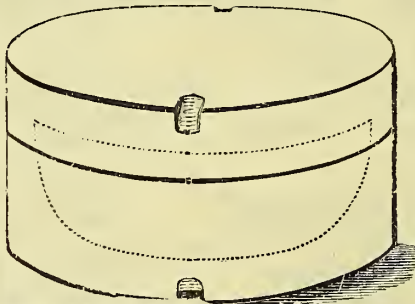
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TOOGOOD'S

IMPROVED PATENT

EARTHENWARE COVERED POTS

Are claimed to be the most
perfect and convenient yet offered to
the Trade.



Owing to the increasing demand
for our Patent Pots, we have in-
troduced a Special THIN Series
for Dispensing.

These Pots are beautifully
glazed and finished, and, being
very light, are specially adapted
for sending by post.

ORDINARY THICKNESS—

1 dr.	2 dr.	$\frac{1}{2}$	$\frac{1}{4}$	1	$1\frac{1}{2}$	2	3	4	6	8 ounces.
1/6	1/6	1/6	1/8	1/10	2/-	2/3	2/10	3/6	4/6	5/6 per doz.

THIN FOR DISPENSING—

$\frac{1}{2}$	$\frac{1}{3}$	$\frac{1}{2}$	$1\frac{1}{2}$	2	3	4	6	8 ounces.
1/7	1/9	2/-	2/2	2/5	3/-	4/-	5/-	6/- per doz.

TOOGOOD'S BATHING CAPS. Write for New Season's List.

TOOGOOD'S SPONGE BAGS. Write for New Season's List.

TOOGOOD'S FLESH GLOVES. Write for New Season's List.

TOOGOOD'S FEEDING BOTTLES. Write for Special List.

BURLINGTON BUILDINGS, HEDDON ST., REGENT STREET, LONDON, W.



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Numbers 5 to 9 are guaranteed, and supplied either loose or on handsome Show Cards displaying six. Customers' own names can be placed on numbers 5 to 9 (but not on numbers 1 to 4) without extra charge for orders of not less than $\frac{1}{2}$ dozen of any one number, or 1 dozen assorted.

From the nature of their construction, Clinical Thermometers are exceedingly fragile, and there is considerable risk of breakage in their transmission, either through the post or by any other mode of conveyance. We use every precaution in packing, but do not guarantee safe delivery, and can only supply them at the risk of purchasers, and only accept orders on these conditions.

ORDERS FOR NOT LESS THAN 1 DOZ. SENT POST FREE TO ANY CHEMIST IN GREAT BRITAIN AND IRELAND.

AYRTON & SAUNDERS, Surgical Instrument Makers, **LIVERPOOL**
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TOOTH, NAIL, and HAIR BRUSHES, COMBS, CUTLERY,

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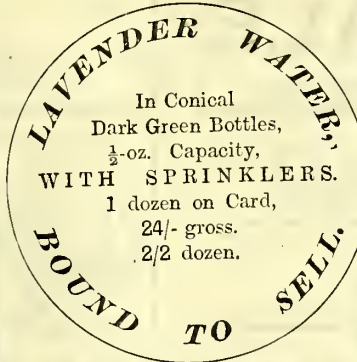
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8-oz. Plug Stopped Cheltenham, each in hand some cartoon ... 8/- doz.
 4-oz. Tins with coloured labels, no name on labels 3/- „
 Bulk ... 9 1/2 d. lb.
 6 doz. 8-oz., buyer's own name on cartoons.

**GAZOGENES.****Fevre's System.****Best Quality.**

Wire covered 2, 3, 5, 8 pint.
 6/6 7/3 10/3 15/3 ea.
 Cane „ ... 8/- 11/3 17/- „

SPECIAL PRICES FOR ORDERS OF ONE DOZEN.

**SEIDLITZ POWDERS.****Howards' Soda Tart. English Acid.**

Well wrapped, full weight as B.P.

Don't waste your time putting these up,

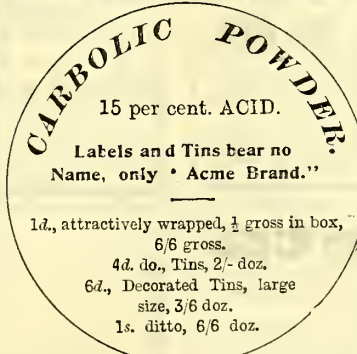
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 52/- gross.

Special Prices for large quantities and Loose Powders.

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Because they are a steel knife coated with vulcanite. Acids don't spoil them.

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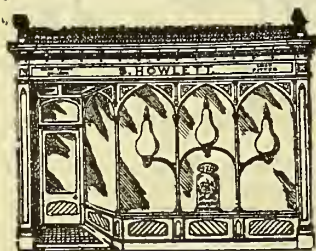
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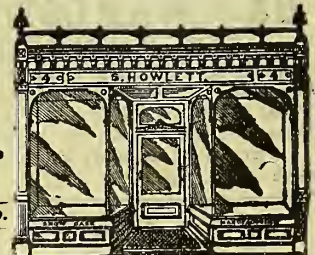
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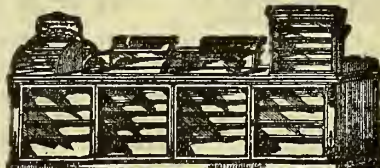


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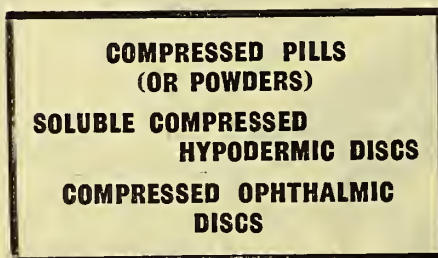
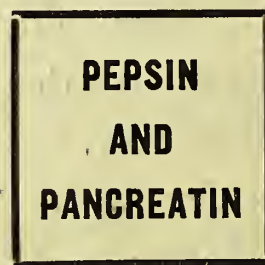
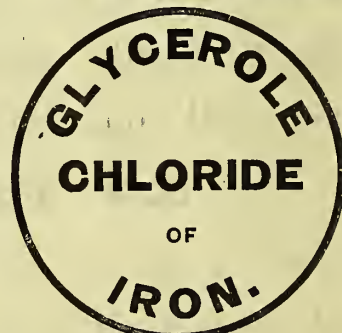
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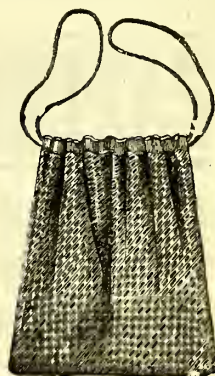
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PAISLEY	18/-	20/-	22/-	28/-	32/- "
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FEARFULLY FATAL FOR FILTHY FLIES!!

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[5]

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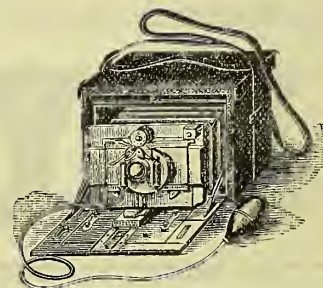
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Mawson Filter Co.

FLY PAPERS
Buchan, D.
Ford, Shapland & Co.
Marshall, E.
Mather, W. L.
Stark, W., Exors.
Smith, J. H.
Strong, Christy
Tidman & Son
Tunbridge & Wright

FOOD (Infants' & Invalid's)
Allen & Hanbury
Benger's Food
Bovril, Lim.
Brand & Co.
Carr's Salt Co., Lim.
Carr, H. S.
Evans, Sons & Co.
Goodall, Backhouse & Co.
Heaton, Squire & Francis
Liebig Co., | Lorimer & Co.
Mason, G., & Co., Lim.
Mellin's Food | Nestlé, H.
Ridge, Dr. | Tyrer, F.
Viking Food Co.
Wyeth, J., & Bro.

FULLERS' EARTH
Fulford Mining Co., Lim.

GELATINES
Gelatine Cooper & Co.
Boehm, F.

GINGER ALE
Mills, E. M., & Co.
Rose & Sons (Lim.)

GLYCERINE
Blyton, Astley & Co. (Pastilles)
Boehm, F. | Pink & Co.
Price's Candle Co., Lim.

GOLD-BEATERS' SKIN
Gates, T. & T.
Govt. & Rheu-
matic Cure
Bromley, G.

GRANULAR PREP.
Bishop, A., & Sons
Blyton, Astley & Co.
Evans, Sons & Co.
Heaton, Squire & Francis
Lloyd, T. Howard & Co.
Richardson, J., & Co., Lim.
Tyrer, T., & Co.
Wright, Layman & Umney

GUM
Pink & Co. (Arable, &c.)

HAIR PREP.
Bates, F. W.
Cassie & Co.
Chesbrough & Co.
Edwards & Co.
Tunstall, F. P., Lim.

HEB-BEER-BITS
Newball & Mason
Potter & Clarke
Smith, J. H.
Southall Bros. & Barclay

HOMOPATHY
Epps, James, & Co., Lim.
Kosne & Ashwell
Leath & Rose
Watson & Wates

HYPOPHOSPHITES
Duncan Floekhart & Co.
Fellowe
Fletcher, Fletcher & Co.
Lorimer & Co. | Symes & Co.
Tyrer, T., & Co.

INHALERS
Burroughs, Wellcome & Co.
Hookin, Wilson & Co.
Toogood, W.

INK
Bewley & Draper, Lim.

INSECTICIDES
Barclay & Sons, Lim.
Lorimer & Co.
Sandford & Sons
Steiner & Co.
Stevenson & Howell

IRON, REDUCED
Berker, Kahler & Co.

KETCHUP
Lorimer & Co.

LARD
Ewen, J., & Sons

LEMON SQUASH
Kemp & Son

LIME JUICE
Evans, Sons & Co.
Lorimer & Co.

LINT
Lindner & Co.
Liverpool Lint Co.
Maw, S., Son & Thompson
Newsome, C.
Robinson & Sons

LICORICE
Dunn, D. | Negro & Co.

LIQUORS
Cooper & Co.
Fletcher, Fletcher & Stevenson
Oppenheimer, Son & Co., Lim.

LOZENGES
Allen & Hanbury
Blyton, Astley & Co.
Gibson, R., & Sons (Manfra.)
Guest, T., & Co.
Hill & Son | Lorimer & Co.
Raines & Co.
Richardson, J., & Co., Lim.
Warwick Bros.

MACHINERY
Bennett, Sons & Shears (Lim.)
Burroughs, Wellcome & Co.
Carter, T. H.
Gardner, W.
Hookin, Wilson & Co.
Martin Perle & Co.
Pindar, J. W.
Werner & Pfeiderer (Knud-
ing and Sifting)

MAGNESIA
Bleasdale, W., & Co.
Evans, Sons & Co.
Henry, T. & W. (Calined)
Hill, A. S., & Sons
Lorimer & Co.
Washington Chemical Co.

MALT EXTRACT, &c.
Allen & Hanbury
Anderson & Co.
Burroughs, Wellcome & Co.
(K. & Co.)
Heaton, Squire & Francis
Leconte, Eugene
Lofden Cod Liver Oil Co.
Lorimer & Co.
Moss, J., & Co.
Oppenheimer, Sons & Co., Lim.
Raines & Co.
Raines, Clark & Co.
Richardson, John, & Co. (Leis-
ester), Lim.
Robinson & Co.

MARRING INKS
Bond (Daughter of the late
John) Ink and Pencils.

MEDICINE CASES
Burroughs, Wellcome & Co.
Day, Son & Hewitt (Veterinary)
Day & Sons (Veterinary)
Richardson, J., & Co., Lim.

MENTHOL
Burroughs, Wellcome & Co.
Christy, T., & Co.
Evans, Sons & Co.
Hookin, Wilson & Co.
Maw, S., Son & Thompson
Shirley Bros. | Tyrer, P.

MERCURIALS
Howards & Sons
May & Baker, Lim.
Tyrer, T., & Co.

METH. SPETS, &c.
Boord & Son | Burroughs, J.
Jones & Co.
Phillips, G., & Co.
Smith, S., & Co.

METHYLENE
Robbins, J., & Co.

MICROSCOPES
Darton, F., & Co.

MILK
Nestlé, H. (Condensed)

MORPHIA
Macfarlan, J. F., & Co.
Smith, Bertie, & Co.
Smith, T. & H., & Co.

OILS, PAINTS, VARNISHES, &c.
Browning, J. H., & Co.
Kosne & Ashwell
Matthews, H., & Co.
Pinchin, Johnson & Co.

OMINTMENT BASES
Burgess, E. Jun.
Burroughs, Wellcome & Co.
(Lanoline)
Chesbrough Co. (Vaseline)
Christy, T., & Co.
Lloyd, T. Howard & Co.
Richardson, J., & Co. (Leis-
ester), Lim.

OPHTHALMIO
Fonies, E. (Powders)

OPIMUM
Hopf, E.

OPTICIANS
Botwright & Grey
Christy, T., & Co.
Darton, F., & Co.

OTTO OF ROSE
Warwick Bros.

OXIDE OF ZINC
Hubbuck, T., & Son, Lim.

PAT. MEDCNS, &c.
Anglo-American Drug Co.
(Lim.) (Preserv.)
Atkinson & Barker (Infant)
Barclay & Sons, Lim.
Beecham, T. (Pills)
Bow's, Dr. Liniment
Bromley, G. (Gout and Rheu.)
Chemists' Association, Lim.
Clarke's Blood Mixture
Edwards & Son
Evans, Leacher & Webb
Fassett & Johnson
Fonies, E. (Powders)
Goodall, Backhouse & Co.
Holloway (Pills and Oint.)
Hovenden & Sons
Lalor, J. (Phosphode, &c.)
MacKenzie, Dr. (Catarrh Cure)
May, Roberts & Co.
Newbery, F., & Sons
Roberts & Co. (Foreign)
Sutton, W., & Co.
Warner, H. H., & Co., Lim.
Wilson, A. (Bunter's Nervine)

PEPPERMINT OIL
Bush, W. J., & Co.
Ransom, W., & Son
Stevenson & Howell

PEPSIN, &c.
Armour & Co.
Burroughs, Wellcome & Co.
Chassaigne & Co.
Fletcher, Fletcher & Stevenson
Newbery, F., & Sons (Inglavin)
Stearns, F. G.
Stern, & G.
Warner & Co. (Inglavin)

PAPAIN
Kuhn, B.

PERFUMERY, FANCY SOAPS
Barclay & Sons, Lim.
Bleasdale & Co.
Blondeau & Cie. | Boehm, F.
Blyton, Astley & Co.
Burgoyne, Burdidge & Co.
Burroughs, Wellcome & Co.
Bush, W. J., & Co.
Chemists' Association, Lim.
Chesbrough Co.
Evans, Sons & Co.
Ewen, J., & Sons
Farina, J. M. | Greenhill & Son
Hovenden & Sons
Lanoline
Muhlen, F.
Newbery, F., & Sons (Barodes)
Pearse, A. & F., Lim.
Potter & Clarke
Price's Patent Candle Co.
Rylands, Dan, Lim. (Powder)
Tidman & Son | Treast, E. C.
Trueitt, H. P., Lim.
Warwick Brothers
West, T. (Okeill's Moss)
Woolley, Sons & Co. (Powder)
Wright, Layman & Umney

PEROX. OF HYDR.
May & Baker, Lim.
Tyrer, T., & Co.

PETROLEUM
Allen & Hanbury
Deall Co., Lim.
Snowdon, Sons & Co.

PHARM. PREPS.
Allen & Hanbury
Armour & Co.
Baies Bros.
Barron, Harveys & Co.
Bieber, J. D. | Boehm, F.
Boehm, F. & Co. (F. & Co.)
Boulton, J., & Co., Lim.
Burgoyne, Burdidge & Co.
Burroughs, Wellcome & Co.
Duncan, Floekhart & Co.
Farris & Co.
Fletcher, Fletcher & Co.
Giles, Schacht & Co.
Heaton, Squire & Francis
Hewlett & Son
Hill, A. S., & Son
Howards & Sons
Jeyes' Sanitary Compounds Co.
Lambert Pharmacos
Macfarlan, J. F., & Co.
May & Baker, Lim.
Moss, J., & Co.
Oppenheimer, Son & Co., Lim.
Parke, Davis & Co.
Potter & Clarke
Richardson, John, & Co. (Leis-
ester), Lim.
Roberts & Co. (Leis-
ester), Lim.
Smith, T. & H., & Co.
Squire & Sons
Sutton, W., & Co.
Tyrer, T., & Co.
Warner, H. H., & Co., Lim.
White, Alfred, & Sons
Woolley, Sons & Co.
Wyeth, H. O., & Bro.
Zimmermann, A. & M.

PHOTOGRAPHIC
American Camera Co.
Barclay & Sons, Lim.
Blackfriars Photographic Co.
Boehm, Fredk.
Botwright & Grey
Burroughs, Wellcome & Co.
Christy, T., & Co.
Darton, F., & Co. (Lim.)
Eastman Photo Materials Co.
Fordham, W. B., & Sons, Lim.
Houghton, G. & Co. (Chemicals)
Howards & Sons (Chemicals)
Kent, G. B., & Sons
Thornton-Pickard Co.
Tyrer, T., & Co.
White, Alfred, & Sons
Zimmermann & Co.

PILL MACHINES
Toogood, W. (Coator)
Werner & Pfeiderer

PILLS (Coated, &c.)
Allen & Hanbury
Anderson Apothecaries' Hall
Beecham, T.
Blyton, Astley & Co.
Bromley, G. (Gout & Rheu.)
Carter's Little Liver Pills
Ox, Arthur H., & Co. (Lancet)
Dr. Williams' Medicine Co.
Duncan, Floekhart & Co.
Evans, Sons & Co.
Heaton, Squire & Francis
Hill, A. S., & Son
Holloway & Co.
Lloyd, H. Howard, & Co.
Lorimer & Co.
McKesson & Robbins
Newbery, F., & Sons
Nortons, Lim. (Carton)
Parke, Davis & Co.
Potter & Sacker
Richardson, J., & Co., Lim.
Wand, S. (Pearl Coated)
Warner, W. B., & Co. (O. & Co.)
Wyth, J., & Bro.

PLASTERS
De St. Dalmass
Evans, Sons & Co.
Johnson & Johnson, Lim.
Leslies, Lim. | Mather, W., Lim.
Seabury & Johnson

THE

C.A.M.W.A.L.

THE CHEMISTS AERATED IN MINERAL WATERS ASSOCIATION LIMITED.

TABLE WATERS

Renowned for their
UNRIVALLED PURITY & EXCELLENCE
 are recommended by

HUNDREDS
 of well-known
MEDICAL MEN
 in all parts of the United Kingdom.

These **SPLENDID TABLE WATERS** are sold everywhere by

THOUSANDS OF CHEMISTS
 who find

IT PAYS THEM BEST
 to do a GENUINELY PROTECTED TRADE, and to give their
 Customers

COMPLETE SATISFACTION

For full Particulars and Advantages of Membership write to
The Chemists' Aerated and Mineral Waters Association, Ltd.,
LONDON, HARROGATE, BRISTOL, & MITCHAM.

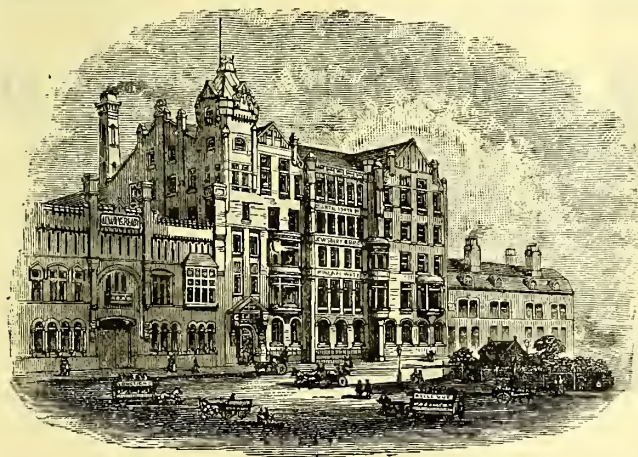
JEWSBURY & BROWN

Have pleasure in announcing that they have removed to New
Premises at

ARDWICK GREEN, MANCHESTER,

WHICH HAVE BEEN SPECIALLY DESIGNED FOR THE MANUFACTURE OF

MINERAL WATERS, Aerated Beverages, AND BREWED GINGER BEER.



The
LABORATORIES, MACHINERY,
and APPLIANCES are
THOROUGHLY UP TO DATE,
and the Water Used comes only in
contact with Pure Tin and Slate,
thus absolutely avoiding any
dangerous metallic contamination.
As heretofore, only the Finest
Qualities of Materials will be used

in every department, relying on the quality of our productions to ensure for
them a preference with the consumer who requires a safe and refreshing
beverage of absolute purity.

Chemists who have not Stocked these Waters are invited to write for Prices.

CARRIAGE PAID ON RETURNED EMPTIES.

JEWSBURY & BROWN, Mineral Water Manufactory,
ARDWICK GREEN, **MANCHESTER**

ORDERS FOR EXPORT AND SHIP STORES RECEIVE SPECIAL ATTENTION.

BUSH'S LEMON OIL.

"Speciality."

TRY IT.

OL. SANTALI "BUSH."

TRY IT.

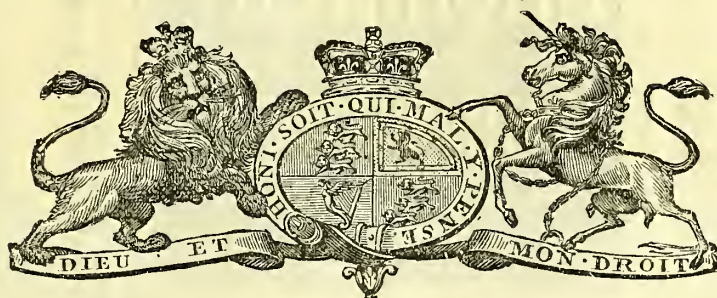
OL. SANTALI "BUSH."

Artillery Lane, LONDON.

IDRIS TABLE WATERS

The PUREST and the BEST.

Purveyors
of
Table Waters
by
Royal Warrant



of Appointment
to
Her Majesty
the
Queen.

The following Testimonial has just been received:—

"I have much pleasure in stating that from November, 1891 (when I took this business and opened an account with you), I have found an increasing trade in your Waters. My business has steadily improved, and your Waters have given very great satisfaction.

I am also glad to notice that you fully protect Chemists' interests by refusing to supply Grocers and others who compete with Chemists. I had a proof of this a short time ago by a Grocer showing me a letter he had received from you stating that you declined to supply him. I am glad to receive this confirmation of the statement you make in your advertisement.

I should also like to add that your prompt delivery and the general attention which you have always given to my orders facilitate business very much. I have great pleasure in recommending you, and you are at liberty to make what use you like of this."

IDRIS TABLE WATERS IN SYPHONS AND BOTTLES.

IDRIS & COMPANY, LTD.

PRATT STREET, CAMDEN TOWN.

SYPHONS & SELTZOGENES



Messrs. J. BARRE JOHNSTONE & CO., 20 Loftus St., Sydney, N.S.W.
Agents for New South Wales, Queensland, and New Zealand.

**SODAWATER
MACHINERY**
AND APPLIANCES
BRATBY & HINCHLIFFE LTD
ANCOATS & 146 MINORIES
MANCHESTER & LONDON EC

81 ROBERTSON STREET, GLASGOW.

PRICES.

SYPHONS ... 1/6 1/8 and 1/10 each.

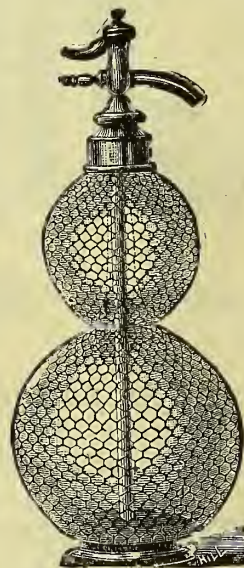
SELTZOGENES.

1	2	3	4	5	8 pint.
6/-	6/8	7/6	8/6	10/5	18/- each.

Including two funnels and stopper for charging.

The tops of these Seltzogenes are made of pure black tin, guaranteed.

All our Seltzogenes are manufactured on the well-known "Fevre" System, and each one is thoroughly tested before leaving the works.



Messrs. NOYES BROS., 43 Queen Street, Melbourne, Victoria,
Agents for Victoria, South and West Australia, and Tasmania.

LAURENT-PERRIER

Coca-tonic

A high-class Wine
and powerful
Nerve Restorative

Prepared by
Laurent-Perrier,
Bouzy-Reims.



2/-, 3/9,

and 7/-

Champagne

Chemists are requested to write for Show Tablets,
Trade Terms, and Special Plan of Introduction in
country and town, to the Sole Consignees—

HERTZ & COLLINGWOOD, 4 Sussex Place, London, E.C.

WHOLESALE.

Chemists are recommended not to let the bulk of the
Summer Beverage trade be done by Grocers and Supply
Stores, but to do it themselves by making a show of our
"CASTLE HORN" brand of

LEMON SQUASH

Made from FRESH LEMON FRUIT, and of Highest Quality.
In Reputed Quarts (6 to gallon).

RETAIL, 1/- PER BOTTLE.

The Largest and Best offered.

Very Handsomely Labelled.

NOTE THE FAVOURABLE WHOLESALE PRICES.

In free Wood Cases of 3 dozen each.

For 1 Case ... 8/- dozen, carriage paid.

„ 2 Cases ... 7/6 „ „

„ 4 Cases ... 7/- „ „

Less than a Case, 8/- dozen with other goods.

The Carriage is paid as above to any station in England or Wales. If to
Scotland or Ireland, 6d. per dozen extra.

In each case is enclosed a Lithographed Showcard and packet of Handbills,
without our name, showing facsimile of bottle in colours.

Not sent out on sale or return. Above prices are lowest for quantities named.

PROPRIETORS AND MANUFACTURERS—

W. KEMP & SON, WHOLESALE DRUGGISTS, HORNCastle.

London Agents—BARCLAY & SONS, 95 Farringdon Street, who
will supply large or small lots at above prices, net.



DAN RYLANDS, LIMITED,

Glass Bottle Manufacturers, Box and Case Makers, Soda-water Machinery Engineers, and General Providers to the Mineral Water Trade.

GLASS BOTTLE DEPARTMENT.



We have had TWENTY YEARS' experience in the making of Globe Stoppered Bottles, and have manufactured more than all other firms in the World put together. RYLAND'S "Valve," "Reliance," "Acme," and "Original No. 4," are the leading Bottles in the Trade. All our Bottles are made with a patent tool of which we are the Sole Owners, and the grooves produced therein will be found the most reliable in the market. All Buyers should see that the name of "DAN RYLANDS" and a figure 4 are stamped upon each bottle, in order to ensure our special manufacture and extra strength of glass.

Our Syphon Bottles are of the very first quality, with pure block-tin-Tops and strong, brilliant, pressure-resisting glass, elegant in appearance, and of simple construction. All kinds of screw-mouth and cork bottles for the aerated-water trade.

Our patent machine-made "Climax" and other Bottles are accurately made and specially designed for Preserves, Pickles, Confectionery, and for all purposes to which wide-mouth Glass Vessels can be applied.

ESSENCE DEPARTMENT.

Our Essences, Tinctures, and other ingredients are prepared by the Standard Essence Co., for whom we are sole agents. Their superior preparations are produced by a process which preserves the full natural aroma of the Fruits. These essences are highly concentrated, of exquisite flavour, and absolutely pure.

Essential Oil of Lemon, Acids, and Colourings of the finest quality and at moderate prices.



SODA-WATER MACHINERY DEPARTMENT.

This Machinery possesses exceptional merits. The Aerated Waters it produces may be relied upon for uniformity of quality, and as regards economy our Patent Plants eclipse all others. They save materials, power, space, labour, time, and money.

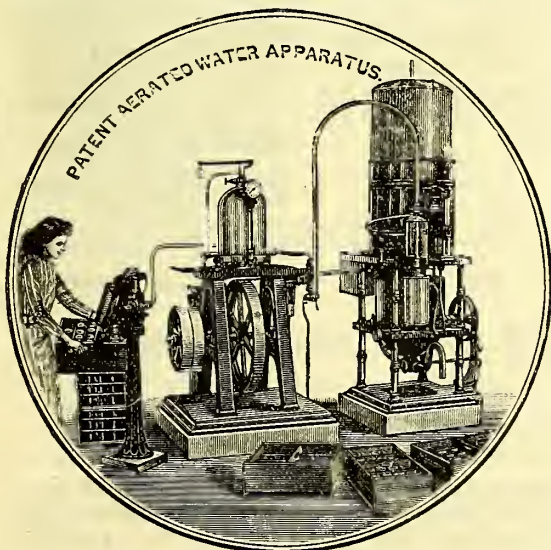
We are also supplying our Patent Machines adapted for using Liquefied Carbonic Acid Gas, to all who prefer this system of Aerated Water making. They are strong, simple, easily managed, and reliable.

Our Filling Machines are the most popular and leading fillers in the market. All kinds, for hand or power, for corks or patents. Of our Paragon Fillers there have been

over 4,500 sold.

BOX DEPARTMENT.

RYLAND'S PATENT WIRE-BOUND BOXES are far superior to hoop-ironed boxes, which catch and drag against everything they come in contact with. In the wire-bound boxes, the wire lies in a groove and is protected from wet and rust. The wire-bound boxes are the strongest, lightest, and neatest in the trade.



Catalogues and Price Lists free on application.

DAN RYLANDS, LIMITED, BARNESLEY, ENGLAND



ROBINSON'S LIEBIG'S BEEF WINE

Composed of Liebig's Extract of Beef, Extract of Malt, and sound Port Wine.

REPORT ON BEEF WINES.

From the results of my Analyses of various Beef Wines I have had occasion to examine, none have equalled as regards strength, purity of ingredients, and (of no less importance) the skilful and judicious manner in which the respective ingredients have been proportioned and combined, the Liebig's Beef Wine manufactured by Mr. B. Robinson, of Pendleton, Manchester.

It is in every sense a reliable preparation, embodying in a pleasing and palatable form all the acknowledged medicinal and nutritive properties pertaining to Liebig's Extract of Meat, Extract of Malt, and sound Port Wine.

WILLIAM ELBORNE, F.C.S., F.L.S.,

Lecturer on Materia Medica in the Owens College, Manchester (Victoria University).
December 15, 1888.

ROBINSON'S ORANGE WINE.

Especially prepared for Quinine Wine, does not deposit, will keep good in any climate, and well adapted for Export Trade. Supplied in Casks containing 9, 18, 30, 60, or 120 Gallons. Terms on application. [2]

ROBINSON'S LEMON SQUASH.

This delightful Summer Beverage is produced solely from the finest fresh Messina Lemons, the juice of which is clarified from all muddy deposit, the fine aromatic flavour of the Peel is extracted and added to the prepared juice, thus securing a far more delicate and refreshing drink than can possibly be obtained by the old clumsy method of squeezing the lemon, &c. Sold in Bottles, reputed quarts, at 1s. each.

B. ROBINSON, Distiller and Brewer of British Wines, Church St., Pendleton, Manchester.

HIRST, BROOKE & HIRST (LIM.), LEEDS,

Manufacturing Chemists and Wholesale Druggists, Manufacturers of

ORANGE WINE

Of Finest Flavour and Quality, and specially suitable for the Preparation of Orange Quinine Wine.

LEVICO (Arsenio-Ferric) WATER.

A NATURAL TONIC AND ALTERATIVE.

"MILD" ANALYSIS:

ARSENIOUS ACID,
1-120 grain.
IRON (Ferrous state)
8 grains.
In each fluid pint.



ADVANTAGES.

Perfect absorption of the Iron. Does not blacken faeces, impair the digestion, constipate, or blacken the teeth. A powerful hæmatinic and alterative of the greatest value in ANÆMIA, CHLOROSIS, AMENORRHOEA, and ECZEMA and all SKIN AFFECTIONS.



"STRONG" ANALYSIS

ARSENIOUS ACID,
1-12 grain.
IRON (Ferrous state)
34 grains.
In each fluid pint.

Sole Agents—BURROUGHS, WELLCOME & CO., LONDON; and of INGRAM & ROYLE, and all Wholesale Druggists and Mineral Water Dealers.

Retail Price 2/- per Bottle, "Mild" or "Strong" Levico.

PROGRESSIVE CHEMISTS

WHO PREPARE THEIR OWN

AERATED WATERS

SHOULD USE THE

PURE LIQUEFIED GAS

OF THE

INTERNATIONAL CARBONIC ACID CO.

20

Recent improvements in collection and transport enable us to supply

PURE DRY NATURAL CARBONIC ACID

in Government-tested steel cylinders at

GREATLY REDUCED PRICES.

By the use of Tube Gas, the smallest quantities of aerated waters can be manufactured as required, of first-rate quality, at a minimum cost. There are no waste products produced, no steam power is required and the cost of plant is reduced to a merely nominal sum.

Full particulars on application to the Sole Agents—
F. J. PUTZ & CO., 21 MINCING LANE, LONDON.

PETER TYRER'S SAUCES

WORCESTER, READING, HARVIE, YORKSHIRE, AND "BOROUGH" KETCHUP.

SILVER MEDAL.

			Per gross.	Extra quality.		Per gross.	Extra quality.
14. Sample Bottles, dozen parcels	--	--	5/3	6/3	1/2 Bottles, flat or round, reputed half-pints	16/-	26/-
" " 1/2-gross boxes	--	--	5/9	6/9	" " " pints	28/-	38/-
14. Giant " dozen parcels	--	--	6/6	8/6	1 Pint Imperial, round stoppered bottles	52/-	62/-
" " 1/2-gross boxes	--	--	7/-	9/-	12 1/2 Gallon Casks (casks free)	20/-	32/-

ROYAL CAFE SAUCE, a Rich Fruity and Exquisite Flavour.

Square Glass Stoppered Bottles, containing nearly 1/2-pint Imperial, 42/- per gross. Sample Bottles at 7/- per gross.

MANUFACTORY — 30 SOUTHALL PLACE, LONG LANE, BOROUGH, LONDON, S.E.
CHIEF SCOTCH AGENCY — West Nile Street. GLASGOW.



VINEGAR

COMMANDS A PREFERENCE OVER
ALL OTHERS.

WORKS { Corner of Old Street
and City Road, } LONDON.

ESTABLISHED OVER 200 YEARS.

NEEDS NO GUARANTEE.



QUALITY

BRINGS ITS OWN REWARD.

THOSE WHO SELL

GLENDENNING'S BEEF & MALT WINE

FIND THEIR SALES INCREASE. WHY?

Because! the constituents used are of the very finest quality, and the public are finding it out.

Order through wholesale houses or direct from Sole Proprietors—

WM. GLENDENNING & SONS,

IMPORTERS OF SPECIAL WINES FOR INVALIDS.

9 Grainger Street. NEWCASTLE-ON-TYNE.

Established
1867.

THOS. GUEST & CO.

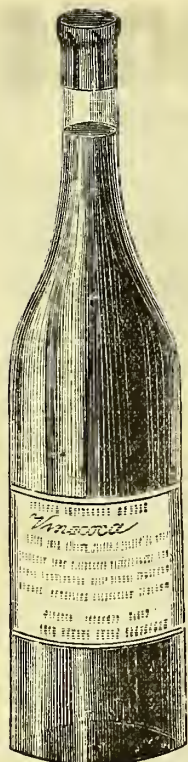
City Works, Carruthers St., MANCHESTER.

MAKERS OF ALL DESCRIPTIONS OF MEDICATED LOZENGES.

B.P., T.H. Ph., and General Proprietary Lozenges. Finest Gum Jujubes and Pastilles—Glycerine and Black Currant, &c. Granular and all other Effervescing Preparations. Boiled Sugars, Floral Tablets (1892).

BEFORE BUYING ANY OF THE ABOVE, PLEASE SEND FOR SAMPLES AND COMPARE.

TELEPHONE NATIONAL 235. TELEGRAMS "GUESTO."



VINACOCA.

Sold in Bottles at 3s. 6d. each, or 40s. per dozen, Retail.

ALSO

COCA LIQUEUR



The best Restorative is

ROLLAND'S COCA LIQUEUR.

The best Nerve Tonic is

ROLLAND'S COCA LIQUEUR.

The best Renewer of Health is

ROLLAND'S COCA LIQUEUR.

Sold in Fancy Wickered Bottles, 7s. 6d. each, Retail.

COCA is prepared in various forms:

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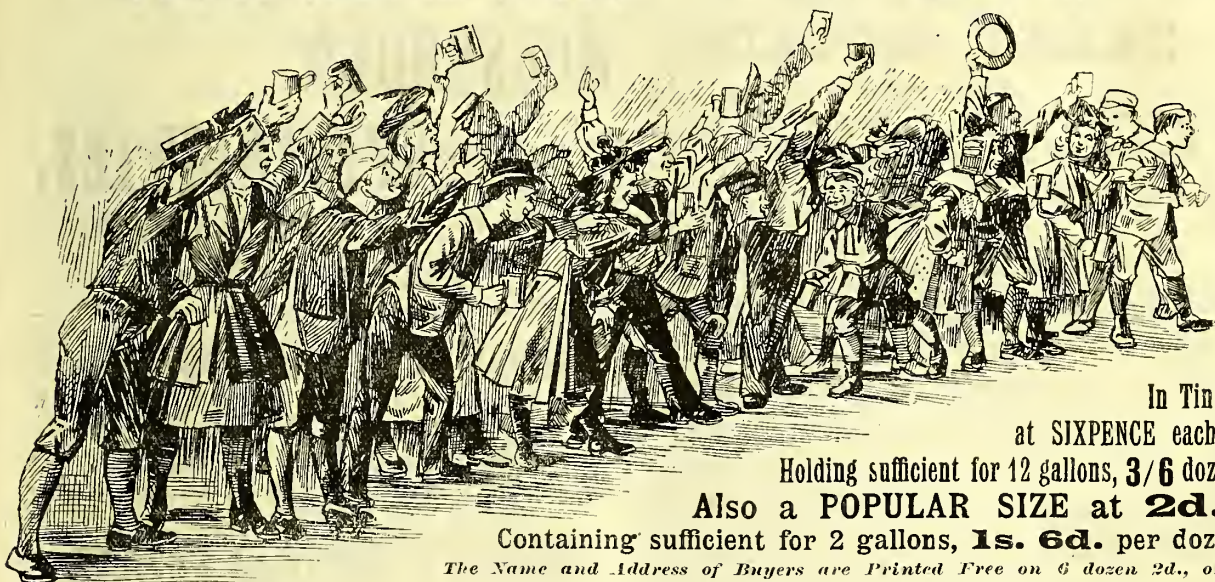
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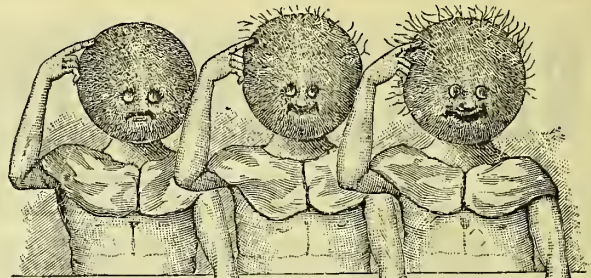
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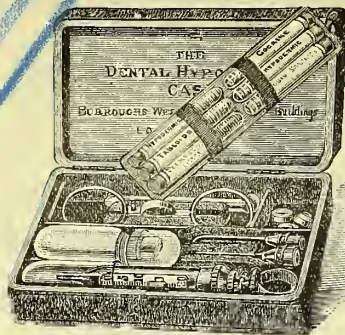
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Although of comparatively recent introduction, this case has already become popular among those Medical Men and Chemists who also devote attention to Dentistry. Its convenience and portability will be apparent when it is considered that, although it measures only $4\frac{1}{4}$ by $2\frac{1}{4}$ by $1\frac{1}{4}$ inches, it furnishes a complete hypodermic armamentarium for use in dental practice. The contents of the Case comprise a specially constructed Syringe, with both curved and straight incorrodible needles; a removable Syringe-holder (a unique feature); Hypodermic "Tabloids" of Cocaine Hydrochlorate, 1-4 and 1-2 gr.; Atropine Sulphate, 1-150 gr.; Apomorphine, 1-10 gr.; Caffeine Sodio-salicylate, 1-2 gr.; Morphine Sulphate, 1-4 gr.; and a small glass Mortar and Pestle. The selection of "Tabloids" can be altered if desired. Price of the Case, fitted complete, 21s.

BURROUGHS, WELLCOME & CO., Manufacturing Chemists, Snow Hill Buildings, LONDON, E.C.

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"Liquor Carbonis Detergens"

Notice

Pharmacists who pride themselves upon examining the preparations they dispense are invited to apply a few simple dispensing tests to determine how superior the original Liquor is to all its imitations.

Such imitations are invariably unskilfully made, and usually compounded from unsuitable materials.

Caution!!!

The name "Liquor Carbonis Detergens" having been registered as a Trade Mark, notice is hereby given that legal proceedings will be taken against any person, firm, or limited company who sell, invoice, dispense, or in any way traffic in any imitation of the original preparation under its registered name.

That there may be every facility for the accurate dispensing of Physicians' Prescriptions, the following sizes of the Liquor can now be obtained unstamped.

2 pints (Glass)	6/- each.	} Less usual Trade Discount.
$\frac{1}{2}$ gallon (Stone)	11/6 "	
1 " "	22/- "	

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